THE

SOUTHERN AGRICULTURIST.

MARCH, 1837.

PART I.

ORIGINAL COMMUNICATIONS.

Reply to "NO EMIGRANT," *on Corn Planting.*

Mr. Editor,—I read your journal with great interest and improvement, and, for that reason, I think that I should withhold no information in my power, which might contribute in the same way, as I believe. In your January number I read "Three Experiments upon the raising of Corn, by 'No Emigrant,'" The experiments were made in Georgia,—the land poor, and the yield prodigious for our part of the country. When I say the yield was prodigious, I do not in the least doubt that 'No Emigrant' made from three acres, what he states he did make. But, sir, let us look at the whole matter.

Experiment I. was upon one acre, manured with 55 bushels of cotton-seed, (black seed,) hills 5 feet apart each way, with four stalks in each hill: produce, 52 bushels 3 quarts of good flint corn.

Experiment II. One acre, manured with the same amount of cotton-seed as above, beds 5 feet apart, corn planted on the same 15 inches apart, leaving one stalk: produce 46 bushels 5 quarts.

Experiment III. One acre, manured as above, beds 5 feet apart, corn planted 4 feet apart, 2 stalks to each hill: produce, 39 bushels, 15 quarts.

Now, Mr. Editor, in all three of the above experiments, it appears that 55 bushels of cotton-seed, of the finer sort, was used. This was high manuring, and, in my opinion, too expensive to be profitable. At the lowest calculation, the cotton-seed, after paying all expenses of transport-

ation, &c., would bring 25 cents per bushel. Fifty-five bushels would yield, therefore, $13 75 cents, an amount for which some of the best acres of land in Georgia and South-Carolina can be purchased. If the planter live any where in the vicinity of a mill for extracting cotton-seed oil, he may sell his seed for 50 cents and more, a bushel; or by procuring, at a trifling expense, a mill for himself, he may make his seed yield him 75 cents a bushel. To manure with it, therefore, would cost him, in the first instance, $27.50 per acre, and in the last, $41.25. Fine cotton-seed has sold in Charleston, during the last year, at $1 per bushel. Each of these calculations show how extravagant it would be to use cotton-seed as a manure. But to calculate the seed at its lowest rate, as a food for our cattle, it is worth fully 25 cents per bushel. By steaming or boiling it, with peas, corn, or any other meal, I find it worth twice that amount to me; and the fattest cattle, and the best milking cows I have ever seen, were those fed in this way. By keeping the cow-pen well littered, the manure which the cattle will make with such food, will produce as much again, throwing out all the advantage to the cattle themselves.

I am prepared, sir, to show, both by analogy and practical experiment, that, as a manure, the cotton-seed is only beneficial from its vegetable matter. The oil in it goes as nothing to the soil, and is totally lost.

The last year, Mr. Editor, I kept 10 milking cows, and about the like number of calves, steers, and oxen. These I fed with ruta-baga, cotton-seed, and rice-flour, mixed, and corn-shucks. My cattle have kept fat, yielded me butter to sell, to the amount of $50; my calves were all fat, and brought from $9 to $10 apiece, and, what is more, I made from my pen, twenty times as much manure as all the cotton-seed on my plantation could have made. In making this assertion, I should, in fairness, state, that I considered the cotton-seed as forming two-thirds of the food of my cattle.

It may be said, that the cotton-seed may be applied with more facility, and that, comparing the expense of lobour in procuring the compost, with the expense of the cotton-seed, that the balance will be in favor of the latter. I can only say, that in preparing my cow-pen, I am certain that I benefit my cows. A well-attended cow-pen, with food in the crib and trough, for the cows

to eat, will more than compensate you for your trouble. Besides, I have found no difference in the time required for manuring one acre with cow-pen manure, and with cotton-seed.

To conclude, Mr. Editor, I would advise those who have prepared for manuring with cotton-seed this year, to carry out their plan; because, though expensive, as I have shown, I agree with 'No Emigrant,' that it will benefit their corn. But, let them consider my argument at the same time, and, by reflecting upon it, I am certain they will find in it abundant truth to convince them, that for another year it will be much better to manure with compost from their cow-pen, and to feed their poor, starving cattle with cotton-seed, which they well relish.

Repeating my compliments for the industrious and interesting manner in which your journal is conducted, I subscribe myself,

SEA-SHORE.

South-Carolina, February, 1837.

The six-acre system in Cotton-culture, in reply to 'BEAUFORT.'

Mr. Editor,—You have brought me out, *nolens*, but not *volens*. You announce, in your last number, that I would reply to 'Beaufort.' I did make you such a promise, but I did not altogether think you were so fond of seeing a fight, asto force me out, by partly posting me. But, sir, I wo'nt back out. While I make Beaufort every apology in the world, for not having appreciated his laudable fondness for marsh-mud, &c. as a manure, I stand up, sir, to what I say, and most unequivocally assert that he is under a mistake, in supposing that more cotton can be made, in planting six acres than three or four. I mean no insult, sir, but I intend to fight. Now, sir, in allusion to me, 'Beaufort writes thus:

"But, perhaps, I owe your readers, a sequel to a com-
"munication inserted in your July number, of which the
"main purpose was, to recommend to the planters of
"sea-island cotton, a more liberal use of the plough, in
"the cultivation of their staple; and, as a natural con-
"sequence, an extension of the quantity of land culti-
"vated to the hand. The recommendation was founded

" on actual experiment, but the experiment of one year " only: and it is now proper to add, that the *six-acre* " *system*, in which the hoe was aided by the plough, has " a secoud time, and during a season unfavourable to the " operations of the latter implement, asserted a decided " superiority over the *four-acre system*, carried on by the " hoe alone. You must content yourself with the fact, " thus generally stated; for I apprehend that the maker " of the experiment, would not feel especially flattered " by having the precise results spread before the public, " and would, probably, desire to conceal from all but the " purchaser, how very small a return he has this year " realized from either mode of culture."

I wo'nt content myself with the fact, thus generally stated (I am not in a passion, Mr. Editor, 'tis my way you see). No, sir, I wo'nt content myself with the fact. I believe, firmly, that Beaufort may be content with the experiment made upon the six-acre system; but, sir, are others content: are others doing right to be content? Is not Beaufort doing wrong to be content. To the use of the plough I object not. I believe it a great means of facilitating our agricultural labors. But, sir, does this prove, that, this implement used upon six acres, imperfectly manured, will make more cotton than when used upon four acres well manured? Is the angler with two lines, likely to take more fish in a large pond with few fish, than with one line from a small pond where there are many fish?

If Beaufort can manure six acres of worn out land with one hand and a plough, as easily as I can four acres of the same land, with the same force: if he can attend his part throughout the entire season, as well as I can attend my portion: if he can, after all this, raise more cotton of as fine quality as mine, both of us planting the same seed on the same original soil, I will then yield the argument to him, and become the disciple of his system. Now, Beaufort professes to believe that he has done all that I require of him. I believe he does injustice to himself in such a profession. I am afraid, were he asked, whether he had applied the same quantity of manure to four acres which he has done to six, he would be unable to answer in the affirmative.

When I first wrote as to the inexpediency of planting over four acres of cotton to the hand, I took these things

for granted. That the land was poor, and needed high manuring; that it was liable to be infested with grass; and that it required to have the ditches upon it always kept open. Taking these for granted, I came to the conclusion, that four acres were as much as could be profitably attended, even with the use of the plough. My conclusion was drawn, partly from experiments made by myself; but, principally, from the experience of those who, having given both systems a fair trial, had come to the conclusion, that, the four-acre system was decidedly the best. Together with their assertions, I had seen that the amount of cotton which they sent to market, after practising the latter system, was greater than when they followed the other. I may here be asked, "whether the plough was used when the six-acre system was followed?" I answer, that, in most cases it was not. But to my argument, it is immaterial whether it was or was not. By its use the fact will be assumed, that, by doing more work than the hoe, more time will be allowed for preparing manure, and attending to other work. While I grant this, I must at the same time claim the same aid of the plough, to sustain the excellence of my system. The issue between myself and 'Beaufort' must be kept in mind. With like means, he contends, that six acres will produce more than four acres. I contend for the contrary, upon the following grounds of appeal.

I. That, equal quantities of manure, applied to four acres of land, and to six acres, will manure four acres better than six acres.

II. That, upon the principle, that, much is always less than more, that four acres manured with one fourth of a parcel of manure, will produce more than one acre manured with one eighth of the same parcel.

III. That, it requiring less time to go over a shorter space than over a longer, the same labour can go over one acre oftener than it can over one acre and a half.

IV. That, granting these positions to be unsupported, by the law of common reason, Beaufort's verdict in favour of the "six-acre system" is unsupported by evidence, it being a notorious fact, that in those countries where less land is cultivated to the hand, the best and

most abundant crops are made; in corroboration of which, we would mention the worn out lands of Scotland, England and Germany, in comparison with the new and rich lands of the United States and Canada.

All which is submitted to the public, by

COLLETON, for the Appellant,
BEAUFORT, for the Defendant.

On Wool and Sheep-shearing.

Charleston, February, 1837.

Mr. Editor,—I have frequently thought of addressing you, on a subject interestingto most of our agriculturists, when viewed in a proper light, but which has, certainly, for too long a time, been almost lost sight of by many of our planters. I have, nevertheless, waited until now to see if more able pens would not take up the matter, and by some happy and successful effort, draw the attention of sheep-owners to a more efficient care of that useful and valuable animal, the Sheep, whereby our planters would derive, with little trouble, no very inconsiderable increase in their annual revenues.

It is true, that I have sometimes heard gentlemen say, who owned extensive flocks of sheep, that, with the exception of the sale of a few lambs, their sheep yielded but little profit; that the sale of the wool was at all times extremely precarious, and the price so trifling, that they had, in general, either given it away, or suffered it to be used or wasted at home. Now, sir, there may be some way of accounting for this lowness of price, in the careless manner in which the article has been sent to market, and moreover, that there has, heretofore, been no regular purchaser of wool in Charleston. I have, however, been recently informed, that a gentleman here is now ready to devote his attention to that line of business, and to give fair prices for every description of wool. If, therefore, the owners of sheep will but give a little more attention to the preparation of their wool, all objections on these grounds will be obviated, and those who may have wool for sale, will hereafter be amply remunerated for any additional trouble they may give themselves.

The remarks and suggestions which I now feel urged, I trust from generous motives, to trouble you with, are predicated on the foregoing observations.

In regard to the usual process of preparing of wool, it is a very certain fact, that it is much easier cleansed before shearing than afterwards, and altogether done far more efficiently. Four persons will pick and wash from twenty-five to thirty sheep, in six or eight hours. The season best adapted for this operation is, from the last of April to the 1st of June. When, therefore, about that time, the weather has become steadily warm, and all things are suitable, select a morning when the appearances of the sky give promise of a goodly day, to begin at an early hour, first, to pick out the burs and sticks from the fleeces, and then to wash them. About two o'clock in the afternoon, the operation for the day ought to cease, in order to give those fleeces last washed time to dry before night, both with a view to the comfort of the animal, and the cleanliness of the wool. Three or four days after the washing, the sheep may be shorn; when the wool will be found superior to any obtained from the same flock in a previous season.

In August, lambs ought to be shorn, as well as the old ones, likewise, for the second time. The shearing of lambs, however, at that season, is attended with a disadvantage in one respect, and an advantage in another. The growth and size of the young ewes, will be greatly improved thereby, but there will be no increase to the number of the flock, from them, the first year. Yet, if an increase in the size of sheep be desirable, the consequences of shearing would be the more important on that score, as the size of the ewe fixes that of its offspring.

ATTACULLACULLA.

Salt as a Manure for Cotton.

Mr. Editor,—In one of your late numbers I read, with great interest, an article from your pen, advising the use of salt as a manure for cotton. The reasons which you give for its beneficial tendency, would be conclusive to my mind, although I had known nothing from actual

experience. But I have, fortunately, had some experience upon the subject, and I shall, accordingly, give it to the public.

Last year, I planted a piece of land, containing 50 acres. It had never before produced well. I should state that 10 acres of it was new land, never planted before. The balance, 40 acres, had been planted for many years previous. I had several times manured it with compost manure. The cotton grew well on it; but except in a very prime season, I could never get the plants to retain their fruit. I had heard of the efficacy of salt-mud, and salt-marsh; but as I could procure neither of these, except with great trouble, I determined to try common salt. I did so: and my mode of doing so was as follows. I applied one bushel to each acre, spreading it in the alley, and then listing upon it. The effect upon the cotton was highly beneficial. From its shooting forth, until the time I picked it in, it exhibited a healthy and vigorous growth, and my product of cotton was greater and better than I had ever known it. It is enough for me to state, that the same land had never before produced me more than 100 lbs. of cotton to the acre. It now gave me 130.

On the new ground, the effect was manifest. I had never planted new ground before, for the first year, without the cotton all running to stalk. It now grew well, and produced me, at the least calculation, 150 lbs. of clean cotton to the acre.

If these statements are of any service to you, you are welcome to make them public.

ST. LUKE'S PARISH.

February 23, 1837.

Ruta-Baga.

Darien, Georgia, February, 1837.

Mr. Editor,—I am sorry to see, that this valuable vegetable is not more extensively cultivated by our planters. Several of your correspondents, for the past year, have alluded to its value, as food for cattle and horses; but I was never so fully aware of its value, until I tried its cultivation myself. I had long proposed to do so, but was

always dissuaded by those who pretended to know more about the plant than they actually did.

On my plantation I work none but horses and mules. My friends state, that, however well the ruta-baga might do in a northern climate, to feed horses and mules, it would not answer for working animals here. They contended, that, the food, in our climate, was too watery, and not sufficiently succulent.

But, sir, I have found that, one fact is better than a thousand theories. I have, the last year, planted ruta-baga, and have fed my carriage and working horses with them; and I assure you, I have never had my horses in better condition.

To branch a little from my main object, I would here state, that, the principal reason why horses are "hide bound," is, because their usual food is of too heating a nature. Let any one examine the excrement of horses, after eating corn; it will be found that, only one half of it has undergone digestion. The other half goes as nothing.

Now, sir, let the horse be fed on a portion of ruta-baga, carrots, or potatoes, and I give my own experience as evidence to the fact, that all the horse's food will undergo complete digestion. But, it may be urged, that, feeding the horse in this way makes him "windy." I grant that it will; but, a handful of salt, applied to each feeding, will entirely obviate this objection. Consider the value of ruta-baga, compared with corn. The acre of land, which will produce 20 bushels of corn, will, planted in ruta-baga, produce, at the lowest calculation, 300 bushels. One acre, last year, with 60 bushels of cotton-seed put upon it, produced me 597 bushels of ruta-baga. Two summers ago, while in New-York State, I visited a farm, upon which, the proprietor assured me, he raised 1,500 bushels of ruta-baga to the acre. I have known of 1,200 bushels being raised in our own State, upon land newly cleared.

These large crops are, however, not to be calculated upon, in making up our calculation of the value of this food. Let us take it for granted, that, with ordinary attention, 300 bushels may be raised. Suppose the same land to produce 20 bushels of corn. Any one who will try it, will find, that, five bushels of ruta-baga, cut up,

will go just as far as one bushel of corn. If, then, 5 bushels are equal to one, 300 bushels of ruta-baga are equal to 60 bushels of corn, which will make one acre in ruta-baga yield 3 times as much as one acre of corn. In the experiment I tried, it yielded me fully six times as much.

But the blades of the corn should be calculated. I am clearly of opinion, that the tops of the ruta-baga, when fed out to cattle, fully compensate for the loss of the blades: for you may cut the tops three or four times, without injury to the roots. I have never steamed the ruta-baga, but, I am confident, that such a process would add double value to the food.

Mr. Couper, of St. Simons, in the April number of your journal, for last year, recommends the planting of a few acres of ruta-baga, instead of peas, in corn land. This year I shall try the experiment; for it seems to me, to be founded upon such strong reasoning to support its advantages, that it cannot fail of success.

Permit me, to request of those who read this journal, to give a small piece of ground during this year, to the cultivation of the ruta-baga. At the conclusion, let them state to the public, whether they have not been practically convinced of the following facts.

1st. That ruta-baga will support horses well, as food—as well as corn.

2d. That one acre of this root will go farther than one of corn.

3d. That one acre of ruta-baga can be attended with half the labor and expense of one acre of corn.

DARIEN.

Indian Corn and Irish Potatoes.

"The progressive steps in agriculture are, and ought to be, slow; and it is contrary to the counsels of wisdom and prudence, to wish to deviate from customs, rendered sacred by time, until the new modes to be adopted, shall have received the sanction of successful experiment.

"The reproach which is every day made to the husbandman, of his indifference towards new modes of culture, appears to me not to be well founded; he wishes first to see and compare them with the methods to which he has been accustomed; he has neither the knowledge, nor the means of forming, beforehand, a just estimate of the advantages which they offer to him; he perseveres, then, in his old course, till some neighbour, richer and more enlightened than himself, is able to present to him, by the new mode, results more advantageous than he has obtained from his own.

"Example is the only lesson profitable to a husbandman. When one is placed before his eyes, and his reason is convinced of its goodness, he is not slow to follow it; and by no other way than this, can improved methods of agriculture be introduced and propagated."

Chaptal's Agric. Chem. Introd.

To the Editor of the Southern Agriculturist.

Sir,—There is sound philosophy in every line of the preceding extracts: and hence, I am neither disappointed nor displeased, at the distrust with which my proposition to raise Indian corn without tillage, has been received. It was so entirely new—so directly at variance with all the long established opinions on the subject, that it would have been almost a miracle if it had been received otherwise than with distrust—nay, even with ridicule.

I have persevered. Last summer, I acted on the same principles; varying the practice in nothing, except in the mode of planting. It seemed to me, that the great products of the northern states might, by my mode, be realized here. I accordingly adopted the manner of planting by which the Messrs. Pratts, of Madison county, New-York, are represented by Judge Buel to have raised one hundred and seventy bushels to the acre, varying it only so as to suit the strength of my soil. I planted, in triple drills, the same ground as last year, four feet apart, from centre to centre, leaving the stalks nine inches apart, in the drill. The whole will be better understood, by the following diagram:

a. . . . . . .
b. . . . . . .
c. . . . . . .

d. . . . . . .
e. . . . . . .
f. . . . . . .

The single drills, *a*, *b*, *c*, and *d*, *e*, *f*, are nine inches apart, and the stalks, represented by the dots are nine inches apart. From the centre drill *b*, to the centre drill *e*, is four feet. I planted two grains in a place, afterwards removing the inferior stalk, so as to leave only one. When the corn was about 12 inches high, I spread a small quantity of stable-yard manure, on the surface of the ground among the stalks; and then covered the whole surface, with leaves, four or five inches thick, as described in my former communication. The whole was left undisturbed, until the corn was ripe. When gathered, and carefully measured, it turned out to be a product, at the rate of SEVENTY bushels to the acre. Last year it was FORTY-TWO.

I have succeeded in raising, and keeping through the winter, as fine Irish potatoes as I ever saw in the northern states. And I have come to the conclusion, that no man in the southern states, need spend a single dollar in the purchase of northern potatoes, except occasionally for seed. For even when they are most successfully produced, it is found best to exchange seed every two or three years.

The potato requires a moist, cool, loose soil. The common practice in the south, is to plant in hedges: and we take no care to protect the plant from our scorching sun. The consequence is, that in dry, hot weather, the plant is wilted, and cannot, therefore, properly perform its office, in preparing the matter to be deposited in the tubes below the soil. The consequence of this is, that in summer, we eat imperfect, or diseased potatoes; and we fail to keep them in winter for the very same reason that we would fail in keeping an imperfect, or diseased apple, or ear of corn. I have attempted to avoid these consequences. Ridges are necessary in England and Ireland, (both moist climates,) for the purposes of drainage. Our climate being hot and dry, requires the opposite practice.

I plant in trenches, 12 or 18 inches deep, according to soil; and put stable manure at the bottom, on which the potatoes are placed. The trenches are then filled with leaves, straw, and shucks, and these covered slightly with earth, taking care to leave the ground highest between the rows. When the potatoes are 6 or 8 inches high, the whole surface of the ground is carefully covered with leaves; leaving, of course, the tops of the stalks out. In this way, no heat of summer wilts the leaves. They continue fresh and green. Blossoms are produced in profusion, followed by seed, which comes to full maturity. The tubers are large, dry, and of fine flavor; and being dug after the vines are completely dead, (about the middle of August,) are kept without any trouble all winter, either in barrels, or spread on the cellar floor. My first attempt, gave me a product at the rate of upwards of 300 bushels to the acre: and now, the last of February, I see no difference between them, and the best northern potatoes, when brought on the table.

Very respectfully,

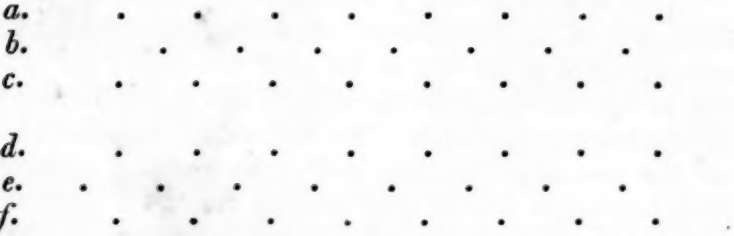
JAMES CAMAK.

Athens, Georgia, February 27, 1837.

The Causes for the Scarcity of Bread-stuffs in the United States.

Our supply of bread-stuffs has never been more deficient than for the last year. Our domestic agriculture cannot meet the demand; and we have become, perhaps, the first country, which, with a cheap and fertile soil, well suited to the cultivation of wheat and other grain, has been forced to depend upon foreign markets for our supplies. Grain, throughout all portions of the United States, is high beyond parallel, and, as an inevitable consequence, every thing else has proportionately increased in price.

"During the present season," says a New-York writer, "about 400,000 bushels of foreign grain have been imported into Baltimore. At this moment, there is, in this city, nearly 300,000 bushels of foreign grain—and it is arriving into Boston also. Here, we have probably received 700,000 bushels during the season. From the



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"During the present season," says a New-York writer, "about 400,000 bushels of foreign grain have been imported into Baltimore. At this moment, there is, in this city, nearly 300,000 bushels of foreign grain—and it is arriving into Boston also. Here, we have probably received 700,000 bushels during the season. From the

Baltic, from the Adriatic, from the Black Sea, from every part of the old world—we, the new world, are receiving bread-stuffs. By letters from Germany, it is calculated that two millions of bushels will be shipped to this country during the existing winter and spring. Yet, in spite of this immense quantity, the average prices are as high as ever, and nearly double the prices of last year."

This state of things exists all over the Union; and our exchange papers are continually bringing us intelligence of large importations of foreign wheat. One ship, the other day, delivered 70,000 at one time, at $2 per bushel.

We have been repeatedly asked, in a general way, what is the reason of all this; and one correspondent has particularly requested us to give him some information upon the subject.

To us, the solution of this question appears plain. We have too much neglected our agriculture, both in its theory, and its practice. We have forgotten, that upon it are based, both our national resources and our national independence—that, without a due attention to this all-important, and all sustaining interest, all others must fail; in a word, that in the success of the planter, all succeed, and in his losses, all suffer.

It is, in losing sight of these truths, that we have come to our present unexpected condition. Most of that labor, which was formerly devoted to the production of wheat and other bread-stuffs, has been converted to the forwarding of manufactures, or to commercial speculations. The slow and gradual way, in which fortunes are made by agriculture, is too tardy for our people. They had rather risk all in speculations, which, perchance, might render them rich in a day, than lead the life of the independent planter, by tilling the "sluggish earth."

The consequence of all this, is an unequal division of labor in our country. Too many are engaged in raising the articles of luxury—articles which tend to ruin our health, and impoverish our circumstances—while too few are engaged in raising the necessary articles of food. Hence, one of the causes of the introduction of foreign wheat into our country. The slaves of Maryland and Virginia, and other of the wheat-growing states of the South, have been sent westward to raise cotton; while, at the North, numbers have abandoned their farms, for

the manufactory or counting-house. Much praise is due to those, who still stick to the plough; but, at the same time, some blame also belongs to them.

With a soil and climate, acknowledged by all who have visited it, to be equal to that of any part of Europe, our farmers have suffered themselves to be undersold in their own markets, by foreign merchants. This bespeaks a defect somewhere, and we think it clearly discernible in the fact, that we are less skilful than farmers across the waters. We have the lesson to learn of them, how, with extravagant rents, and upon poor lands, with enormous taxes, and with almost every restriction, which can be well conceived, they can afford to compete with us, in our own markets? Is it, that labor with them is cheaper than with us? That, amid a thousand other considerations, is more than counterbalanced by the cheapness of our lands. The fact is, with the same labor, and on the same extent of land, they can out-crop us! Why is this? They manure higher, and have made agriculture more of a science than we have done. With their farmers you hear no senseless tirades against *book-farming*. Their best men, have not been ashamed, to devote their time and talents to the advancement of the agricultural profession; and their farmers have not been so over-conceited and wise, as to believe that they could derive no benefit from the labors of such men. They have studied agriculture as a science—they have practised it as a science, and it has yielded them sure and undeviating results.

While European farmers pursue agriculture with more skill than we do, they also practise more economy in the consumption of its products. Take, for instance, their judicious and economical mode of feeding their cows, and animals of labor. With us, a great portion of the grain, which is produced in our country, is used as food for our horses, and cattle, and our people are thus constrained to look to foreign markets for a supply for their own personal demands. In Europe, such a state of things is not frequently heard of. Cattle are there accustomed to live on roots, instead of grain, by which means they require a much smaller portion of land and labor to support them.

Well knowing, that no country can be internally prosperous and happy, where a scarcity of bread-stuffs exists,

it has ever been the policy of all judicious legislators, to provide against such an evil. Upon this subject, the same writer, from whom we have already quoted, makes the following sensible remarks.

"To a question once put to the late Nathan Meyer Rothschild, by a committee of the British House of Commons, he replied, that 'in the whole course of his experience, he had observed, that whenever any country had imported bread-stuffs, the course of exchange was immediately turned against the importing country.' This result does not arise alone, from the mere fact of an import of grain or bread-stuffs, or the value of it—but the necessity of importing such articles, shows some great disturbance in the internal trade and industry of the country that gets it. It is a remarkable fact, known to every one conversant with the laws of commerce, that since the import of grain began in the United States, the foreign exchange also began to rise, and to keep rising, in the face of an improved crop of cotton, and an increased export of domestic manufactures. Specie is going slowly out of the country, in spite of all that can be done to cage it. During the last week, nearly $300,000 appears to have been exported, by the custom-house books—but how much gold may have been abstracted, that we know not of, we cannot tell. The banks are well known, notwithstanding all their concealment, to have less specie now in their vaults, than they had last January. Yet there is plenty of specie scattered throughout the country to support all our paper circulation—but it is unavailable, in our foreign exchanges, from its want of concentration in our great marts.

"But the most ominous features of the present movements in our commercial system, is the extraordinary import of foreign grain, and the dread of an export of gold and silver. This state of things is unnatural in such a country as this. It springs from some great—some overwhelming error in our system. There is an inequality in the action of our industry somewhere. In two years, the price of every product, in this part of the country has been raised, while the cotton and rice of the south is the same, or rather declining. The interest of money has increased, while banks, rail-roads, real estate, have also increased beyond any example in history. According to a statement published in a southern paper, the crop of

cotton last year, in four only of the southern states, has increased 15 to 20 per cent. The enormous capital of eight hundred millions are employed in raising cotton. Our manufacturing establishments are equally increasing. Probably, the capital employed in manufactories, in the middle and northern states, is full three hundred millions of dollars. In the midst of this increase in these branches of industry, we see an extraordinary diminution in the crops of wheat, rye, and bread-stuffs. From Maryland and Virginia, the slave population has been taken off to cultivate cotton and rice-lands further south. In the north, the construction of rail-roads and manufactures, abstracts many from the culture of the soil, and the raising of wheat and grain.

"Speculation, and the desire to get rapidly rich, are at the bottom of these singular changes, and inequalization in our branches of industry. The banking system, too, has thrown the whole world into a mania of speculation, and, at this moment, we seem to be only in the beginning of the rage. Mississippi alone, has increased her bank capital *fifteen millions* one morning, recently, before breakfast. Where is this to end?"

In ancient times, three weeks' existence of such a state of things, would have brought about a complete revolution among the people. They would have held their legislators responsible for such a mismanagement of their concerns, and every store-house in the country would have been torn open, until the citizens were supplied with food, at a cheap rate. We were never advocates of violent resorts of this kind, but we have always admired that sensitiveness of the people of ancient times, which would never permit them to be imposed upon, by the mismanagement, or knavery of their legislators, while they had the power to act for themselves.

Look over the whole United States. What is its condition? Who are setting the example of wild and extravagant speculation? Who are withholding from agriculture its needful protection and encouragement? The answer is plain. Our legislators—our public officers—our magistrates themselves; they are the men. Look at our own State, in particular. With its agricultural interest paying nine tenths of its taxes, what has it done for that interest? But, after all, who are to blame? The people! They are omnipotent, if they would be. If they will not look to their interest, they deserve to suffer.

How to make Compost Manure.

Ashepoo, February 6, 1837.

Mr. Editor,—I frequently hear planters complaining of the difficulty of procuring a sufficient quantity of compost manure for their purpose. They say, that they have cows enough, but that they cannot afford the time to gather litter for their pens. In the summer, when they have time, litter is hard to be procured; because the land is all covered with green herbage. If planters would reflect upon one or two things, they would have no cause for these complaints.

Now, sir, what is the valuable part of compost manures? You have somewhere said, Mr. Editor, that it is the urinary matter of the cows, acting upon the vegetable matter thrown into the pen. I agree with you, sir, and shall, consequently, proceed upon that principle.

When litter is put into the pen, it is put there to be rotted by the dung and urine of the cow. In nine instances out of ten, the litter is not covered by a sufficiency of dung, and thus remains unrotted for months. Now, Mr. Editor, if planters will only scatter the litter where the pen is to be made, and then cover it well with earth, and then scatter another parcel of litter, and then another of earth, and so on in alternation, they will find that their manure will rot soon, and all of its properties will be preserved.

Let it not be supposed, that the carrying out of the earth will be too tedious; a trial of the affair, will soon prove, that it can be done equally expeditious with the litter. Besides, one cart-load of manure made in this way, will go twice as far as that made by the common mode.

I would observe, in conclusion, that, cows should never be turned into a pen, until the litter and earth together are raised at least two feet high. The litter will thus suck up all the urine, and not permit it, as in the case of shallow pens, to run all away in the ground below.

Will some of your correspondents give me some particular information as to the culture of the sea-island cotton. I wish to know how it is the islanders make so much more to the hand than other people.

O. P. Q.

The Ancient Products of South-Carolina.

The following extract, from an old pamphlet on the affairs of South-Carolina, will be found interesting to those who are fond of tracing the improvements which have taken place in our agricultural affairs within the last century. The extract is from "A Description of Carolina, by Governor Glen, published at London, 1761," and recently republished in the Historical Collections of South-Carolina.

"The land of South-Carolina for a hundred and fifty miles back, is flat and woody: intersected with many large rivers, some of which rise out of the Cherokee Mountains, and after a winding course of some hundred miles, discharge themselves into the sea.

"It is remarkable for the diversity of its soil: that near the coast is generally sandy, but not therefore unfruitful; in other parts there is clay, loam, and marl. I have seen of the soil of some high bluffs near the sides of rivers that exactly resemble Castile soap, and it is not less variegated with red and blue veins, nor less clamy. There are dispersed up and down the country several large old Indian fields, which are lands that have been cleared by the Indians, and now remain just as they left them.

"There arise in many places fine savannas or wide extended plains, which do not produce any trees: these are a kind of natural lawns, and some of them as beautiful as those made by art.

"The country abounds every where with large swamps, which when cleared, opened and sweetened by culture, yield plentiful crops of rice. Along the banks of our rivers and creeks, there are also swamps and marshes, fit either for rice, or, by the hardness of their bottoms, for pasturage.

"It would open too large a field to enter very minutely into the nature of the soil: and I think that this will sufficiently appear by the following account of what the labour of one negro employed on our best lands will annually produce in rice, corn, and indigo. The best lands for rice is a wet, deep, miry soil: such as is generally to be found in Cypress swamps; or a black greasy mould

with a clay foundation; but the very best lands may be meliorated by laying them under water at proper seasons.

"Good crops are produced even the first year, when the surface of the earth appears in some degree covered with the trunks and branches of trees: the proper months for sowing rice are, March, April, and May: the method is to plant it in trenches, or rows made with a hoe, about three inches deep; the land must be pretty clear from weeds; and at the latter end of August, or the beginning of September, it will be fit to be reaped.

"Rice is not the worse for being a little green when cut, they let it remain on the stubble till dry, which will be in about two or three days, if the weather be favourable, and then they house, or put it in large stacks.

"Afterwards, it is threshed with a *flail*, and then winnowed; which was formerly a very tedious operation, but it is now performed with greater ease, by a very simple machine, a wind fan, but lately used here, and a prodigious improvement.

"The next part of the process is grinding, which is done in small mills made of wood, of about two feet in diameter; it is then winnowed again, and afterwards put into a mortar made of wood, sufficient to contain from half a bushel to a bushel, when it is beat with a pestle of a size suitable to the mortar, and to the strength of the person who is to pound it; this is done to free the rice from a thick skin, and is the most laborious part of the work. It is then sifted from the flour and dust, made by the pounding; and afterwards by a wire-sieve, called a market-sieve, it is separated from the broken and small rice, which fits it for the barrels, in which it is carried to market.

They reckon thirty slaves a proper number for a rice plantation, and to be tended with one overseer; these, in favourable seasons, and on good land, will produce a surprising quantity of rice; but that I may not be blamed by those, who being induced to come here on such favourable accounts, and may not reap so great a harvest; and that I may not mislead any person whatever, I choose rather to mention the common computation, throughout the Province, communibus annis: which is, that each good working hand employed in a rice plantation makes four barrels and a half of rice, each barrel weighing five hundred pounds neat; besides a sufficient quantity of

provisions, of all kinds, for the slaves, horses, cattle, and poultry, of the plantation, for the ensuing year. Rice, last year, bore a good price, being at a medium about forty-five shillings our currency per hundred weight; and all this year, it hath been fifty-five shillings, and three pounds; though not many years ago it was sold at such low prices, as ten and twelve shillings per hundred.

"Indian corn delights in high loose land, it does not agree with clay, and is killed by much wet; it is generally planted in ridges, made by the plow or hoe, and in holes about six or eight feet from each other; it requires to be kept free from weeds, and will produce, according to the goodness of the land, from fifteen to fifty bushels an acre: some extraordinary rich land, in good seasons, will yield eighty bushels: but the common computation is, that a negro will tend six acres, and that each acre will produce from ten to thirty-five bushels; it sells generally for about ten shillings currency a bushel, but is at present fifteen.

"Indigo is of several sorts; what we have gone mostly upon, is the sort generally cultivated in the sugar islands, which requires a high, loose soil, tolerably rich, and is an annual plant; but the nilco sort, which is common in this country, is much more hardy and luxuriant, and is perennial; its stalk dies every year, but it shoots up again next spring: the indigo made from it is of as good a quality as the other, and it will grow on very indifferent land, provided it be dry and loose.

"An acre of good land may produce about eighty pounds weight of good indigo; and one slave may manage two acres and upwards, and raise provisions besides, and have all the winter months to saw lumber and be otherwise employed in; but as much of the land hitherto used for indigo is improper, I am persuaded, that not above thirty pounds weight of good indigo per acre, can be expected from the land at present cultivated. Perhaps we are not conversant enough in this commodity, either in the culture of the plant, or in the method of managing or manufacturing it, to write with certainty.

"I am afraid that the lime-water that some use to make the particles subside, contrary, as I have been informed, to the practice of the French, is prejudicial to it, by precipitating different kinds of particles: and consequently incorporating them with the indigo.

"But I cannot leave this subject without observing how conveniently and profitable, as to the charge of labour both indigo and rice may be managed by the same persons, for the labour attending indigo being over in the summer months, those who were employed in it may afterwards manufacture rice in the ensuing part of the year, when it becomes most laborious; and, after doing all this, they will have some time to spare for sawing lumber and making hogsheads, and other staves, to supply the sugar colonies.

"This colony abounds in many other useful productions, of which it is not in my power to give a very particular account; but such of them as there is a demand for in other countries, are all specified in my account of the exports of Charles-town, herewith transmitted. I have also mentioned the quantity of each species so exported, and the price it bore with us at the time; the knowledge of which two particulars, in relation to each sort, will, I believe, be more satisfactory, in a national sense, than any thing else that could be said about them.

"I must, therefore, beg leave to refer to the said account, and shall conclude this head with observing, that hitherto there have not been any mines discovered in the province."

An excellent Pickle for Beef and Pork.

Mr. Editor,—Some time ago, I picked out of a newspaper, the subjoined receipt for curing beef and pork. I have put it into practice, and can vouch for its excellence. All who will give the receipt a trial, will be convinced, with the author of the receipt, "that there is no pickle in use to be compared with it. I spend the best part of my time at my plantation, and kill, every now and then, a beef, which I am obliged to salt, to keep from spoiling. Since I have tried this pickle, let me assure you, sir, that I have never eaten better salted beef, in my life. Respectfully yours, C. B. R.

Pickle for Beef and Pork.—The following receipt, for making pickle for beef and pork, is strongly recommended to the adoption of those who pickle beef and

pork for family use. Persons in the trade, who will adopt it, will find a ready sale for their beef and pork. It has been used, by many families in this city, and always approved. I do not hesitate to assert, that there is no pickle in use, to be compared with it. It is familiarly known by the name of the "Knickerbocker Pickle." Could this receipt be generally adopted, our pickled beef and pork would have certain preference in the foreign market.

Receipt.—6 gals water, 9 lbs. salt, coarse and fine mixed, 3lbs. brown sugar, 3 ounces saltpetre, 1 ounce pearlash, 1 quart molasses. In making a larger or smaller quantity of pickle, the above proportions are to be observed. Boil and skim these ingredients well, and when cold put it over the beef or pork.—*An Old Housekeeper.*

The Sweet Potato.

Mr. Editor,—I sent you for publication in your January number, three experiments upon the raising of corn. I now present you with an experiment upon the raising of sweet potatoes, which, for several years I have tried with great success.

Instead of planting my potatoes in rows, as is commonly done, I make hills about five feet apart each way. In each hill I place all the manure I intend to devote to the land. For instance: at the distance of five feet apart each way, I place about one quart of cotton seed, and a small portion of compost manure. I then haul up a hill over these; at the same time mixing the seed and manure with the soil as much as possible. From the 25th of March to the 1st of April I commence planting. In each hill made as above, I plant 5 seed potatoes—placing them at equal distances from each other, upon the top of the hill. Potatoes so planted are more easily attended, than when planted in rows, and will, in every case, yield a larger crop. Last year, in addition to the cotton seed, and compost manure, I scattered about a tablespoonful of salt in each hill, and planted a quarter acre of potatoes in this way. It yielded me a larger crop than any other quarter acre in the whole field.

I have just received your February number, wherein I have read an article on the raising of potatoes from sprouts. I perfectly agree with the writer when he says, that potatoes from sprouts will be earlier and larger, and I will, in addition to what he says, state that the yield will be greater.

For several years I have tried the mode on a small scale, and find that it succeeds well. It is apparently troublesome, and you will not get your negroes to relish the idea of abandoning old habits, or the mode of planting from sprouts would be adopted for our whole crops.

NO EMIGRANT.

Georgia, February, 1837.

An infallible cure for Dysentery.

Mr. Editor,—As the season approaches, when our negroes are frequently troubled with Dysentery, I send you for publication in your journal, the following receipt. One trial of it will be its best eulogy.

A QUONDAM, M. D.

Recipe.—Simmer together one quart of strong vinegar, and one and a half pounds of best quality of loaf sugar, for twenty minutes in a pewter dish, with a pewter cover, and no other will answer. If the patient be an adult, it will be necessary first to cleanse out the bowels with one ounce of Glauber salts, united with two grains of tart. antimony; and a less quantity for a child. One tablespoonfulof the syrup is then to be given every hour night and day, for 24, 36, or 48 hours, till the cure is effected.—The writer never knew it to fail in effecting a cure of this fatal disease within the limits of 48 hours, even in the worst cases of dysentery.

PART II.

SELECTIONS.

The following appeal to the people of New-York, will, by a change of the name of the State, serve as a hint to our Legislature of South-Carolina.

Legislative aid to Agriculture, or an Appeal to the Farmers of New-York.

[FROM THE GENESEE FARMER.]

The United States exhibit the singular spectacle,—a spectacle which foreign nations behold with amazement, and are utterly unable to comprehend,—of a great people not only free from debt, but with some fifty millions in the treasury, for which the government has no possible use. Whatever may be thought of the policy of continuing a state of things that by its natural operation shall produce such a surplus revenue, or the expediency of distributing such surplus when it happens to arise, none whatever can exist of the propriety of the several states making the best possible use of the part allotted to them respectively, when such part comes into their possession.

The State of New-York set a patriotic and successful example in the career of internal improvements, by adopting plans, which, though for a time seeming severely to task the resources of the state, have eventually shown the wisdom and far-reaching forethought of the men who carried that system into execution. Through the agency of the "Erie canal, that glorious monument to the glorious memory of De Witt Clinton," and his able coadjutors, a debt of twelve millions has been paid—the salt and auction duties have been restored to their original destination of meeting the civil expenses of the state—and the still accumulating revenue is fast placing New-York in the situation of the United States, that is, with a surplus beyond any reasonable or probable expenditure.

At such a moment, with a full treasury, and increasing means for a continued supply, New-York is called upon to receive her quota of the surplus money of the United States—a sum, according to the most probable estimates amounting to at least six millions of dollars.

The important question now arises, what disposition shall be made of this large sum of money, and to what use shall it be applied? Shall the money lie idle in the treasury, or shall the state take it and use it as its own? It should be remembered that this money is not given to the state—it is only deposited with it, or rather loaned to it, and is of course liable to be called for at any time, should the policy or the wants of the general government require it; and though such a contingency is not probable, the possibility of such an event should

not be lost sight of in the disposition. In taking the money, the state will undoubtedly use it as its own, appropriating it to such purposes as shall most benefit the whole, and at the same time, best ensure the means of payment if ever called for.

Shall this money be devoted to the prosecution of our system of internal improvements? We think not—certainly not the whole. The works at present, under the control of the commissioners, are already sufficiently extensive for their proper management by the state, which ought not to run the risque, as has already been done to some extent, of hazarding the resources already existing, in unprofitable and unnecessary constructions. If an extension is required, let it be done by companies, the state reserving the right, in all cases where they can possibly interfere with the works of the state, of assuming the direction and control at any time, a right to be vigilantly guarded, and rigidly exercised whenever occasion requires. There is but one remaining work which properly belongs to the state, and which it should enter upon at once: a ship canal around the overslaugh—a work for the interest of all, and for which an appropriation from the quota money would, we doubt not, meet the approbation of all.

Some months since, when there was a prospect of receiving only one or two millions, it was proposed in some of the leading journals, to add the sum to the school fund, and thus devote it to the great purpose of education, a proposition we believe received with universal favor. Two millions added to that fund would enable the state to distribute more than double the sum that is now divided; or in other words, would defray about two-thirds of the expenses of the common schools. Would it be politic or useful to do more than this? In nothing is the maxim, that "that which costs nothing is valued less," more true than in education; and we think experience shows, that much more could not be done without lessening too much the interest which parents and guardians now feel, as to the expenditure of their money. If you would interest a man in any cause, touch his pocket. For the state to pay the whole expenses of our common schools would have a direct tendency to ruin the whole system. While, therefore, education should be viewed as all important, we think that the addition of two or three millions is all that can at present profitably be employed by the common school fund.

Provision, at the same time deemed fully adequate for the purpose, has been made for a full survey of the state, with a view to the developement of its resources, geographical, geological, mineralogical, and agricultural; and we hope that no ill-timed parsimony will prevent the execution of the whole plan in the most complete and thorough manner, or hinder the results of the examination from being given to the world in a manner worthy of the subject and the state.

But after all proposed above, one or two millions will still remain unexpended, a bone for factions to contend about, for, such is the selfish tendencies of human nature, an inducement to the creation of new offices, or the bestowment of exorbitant salaries.

What interest then remains upon which the surplus in the treasury can be worthily and profitably exerted? What department of industry, which more than another deserves and demands the effective aid of the state? The true and ready answer is AGRICULTURE.

The situation of New-York—her facilities for internal communication—the habits of her citizens—and above all, the excellence of her

soil, mark her as an agricultural state. Here is the great secret of her power, the source of her energy and wealth, and to that point must her legislators look, if they intend she shall retain the proud title of the Empire State.

Agriculture lies at the very basis of all prosperity—of civilization and social order. Without it, neither can exist to any extent. On it commerce is depending; it furnishes between nations the objects mainly of trade and exchange; and on its success the merchant, the manufacturer, and the professional man, are alike dependent.

Such being the facts, and such the importance of Agriculture, we may ask, whether, what the state has hitherto done for the farmer, is in any degree adequate to the real magnitude of his claims. By a policy as wise as it was beneficial, a few thousands annually were distributed among country agricultural societies; and for every thousand so divided, the statistics of the state show that millions have been returned. Provision has been made for one agricultural school, and here our legislators, as if they were fearful the treasury would be exhausted, or frightened at their unwonted liberality, have allowed the matter to rest. Has this course been just to the people?—has it been generous?

Now then, when by the receipt of millions every anticipated or probable deficiency of funds is done away; when every other interest has been, or may be amply provided for, and the treasury still remains overflowing; let the voice of the agriculturist be heard, and the class to which all others are indebted, not find their well founded claims rejected.

What do we as agriculturists require of the state? Nothing that is not clearly right—nothing in the least degree unreasonable—nothing that will not be early and amply repaid by the increased revenues returned to the source of the disbursements. We require in the southern and in the western districts, Agricultural Schools, endowed as is the central one at Albany; and diffusing equally to every section of the state, the advantages expected to be derived from that. The agriculturists of this state require, and it is to this point our efforts as farmers should be principally directed, an annual appropriation from the treasury, for the encouragement and support of county Agricultural Societies, which the experience of the past has proved to more rapidly advance the interests of agriculture than any other method yet devised; proof that is yearly accumulating from the example of such societies as those of Berkshire and Worcester in Massachusetts, and the long established ones of England and Scotland.

Discouraged by the failure of past applications in favor of Agriculture, some may deem all exertions at the present time as premature and hopeless. Such should not be the feelings among farmers or their friends. Many of the causes which have had an unfavorable influence heretofore, have ceased to operate; a sense of the value and importance of Agriculture as a national interest, and the necessity of taking higher and more liberal ground in regard to it, has been gradually increasing among well informed and influential men; an opinion dictated in part by a more correct view of its relative magnitude, and in a greater degree by the more extensive diffusion of agricultural knowledge through journals devoted to the interests of the farmer.

To accomplish the desirable objects we have in view, nothing more is necessary for the purpose, than for farmers and those devoted to agricultural pursuits, to make their wishes known and their voices

heard, by the constitutional and legitimate method of petition, in our halls of legislation. Let some public spirited individual in every school district in the state, circulate a petition having for its object legislative aid to agriculture, and let these be early forwarded to that body. Let this step be taken, and farmers we are confident will no longer have reason to complain, that their claims are unheard and their interests digregarded. Our legislators do not need to be taught the truth, that they are the servants and the people the masters; all they desire is the clearly expressed public will, and to that they will readily bow.

Agriculturists do not come before the legislature as mendicants, craving these appropriations as gifts, or as charity; they claim a liberal portion of the treasury surplus as their own, the produce of the sweat of their brow, and which, if not required for the necessities of the state should, in the shape of the appropriations asked for, be at once returned to the rightful owners. A FARMER.

December, 1836.

Third Annual Report of the Managers of the Boston Asylum and Farm School.

[FROM THE GENESEE FARMER.]

The Managers of the above Institution respectfully submit to the Corporation, the following Report:—

The present Board of Managers was elected in the month of June last, and this report commences with that period.

The objects of the Institution are presumed to be well understood. To rescue from the ills and the temptations of poverty and neglect, those who have been left without a parent's care; to reclaim from moral exposure those who are treading the paths of danger: to "place the solitary in families;" to give to those who know nothing of the ties or influences of home, some taste and fondness for a local habitation, at the least; and to offer to those, whose only training would otherwise have been in the walks of vice, if not of crime, the greatest blessing which New England can bestow upon her most favored sons, a good education, are some of the purposes for which the Asylum and Farm School was endowed. Under the blessing of God, success has thus far attended the exertions which have been made to accomplish these objects. From the monthly reports of the Superintendent, and from the personal examination of the establishment on Thompson's Island, the Board of Managers are satisfied that there has been much improvement in the character of the boys who have been committed to the charge of the Institution. In the last report of the Superintendent, 62 boys are placed in the highest or first grade, 40 in the second, 4 in the third, and 1 in the fourth.

The number of boys on the Island at the time of the last report, was 92; since that time 18 boys have been admitted, and three withdrawn. The number on the first or January, 1837, was 107; all of whom, as well as all other persons connected with the establishment on the Island, were in good health, and there has been no death at the Institution since the last report was made. The occupations and employment of the boys vary with the season. In Spring, Summer and Autumn, the larger boys, in classes, work upon the garden and

Reproduced from poor material

farm, of whose labor they perform a large part. The younger boys have small gardens of their own, which afford them recreation when released from school. In the winter season most of them attend school, where they are instructed in the learning usually taught in our common schools, and some of them assist in making clothes and mending shoes. The winter evenings are occupied with the study of Geography, and the use of Globes; Botany and Practical Agriculture; Lecturing on different subjects, Singing and Reading. The Superintendent states that "every boy in the Institution is required to be present during the evening exercises, if he is able, which are very pleasing to them, and which we all enjoy very much."

A large number of mulberry trees have been planted upon the Island, and there are many silk worms at the establishment. It is contemplated to improve the advantages of the location in the production of raw silk for manufacture.

As to the success of the boys in the farming operations, Capt. Chandler, the superintendent says, "they have succeeded far beyond my expectations; I think they have done more work, and done it better, than the boys of their age who have been regularly brought up to the business in the country generally do." And as to the comfort and contentedness of the boys, he says, "they are all comfortably clad with woolen clothes, shoes, stockings and caps, and appear to be as happy in their present situation as boys generally are under the paternal roof. They appreciate their advantages, and most of them are grateful to the benefactors of the Institution and their friends for placing them here. The boys are well supplied with books, and keep them in excellent order; our Library contains between 4 and 500 volumes of well selected books. I have also an agricultural Library containing about 30 volumes, to which the boys have access."

Opportunities are occasionally offered to the friends of the boys at the Institution, of visiting them on the Island in the summer months.

The School is under the immediate charge of Mr. George B. Hyde, and he as well as the Superintendent and all engaged in the establishment, are believed to merit the continuance of the confidence which has hitherto been reposed in them.

During the past summer, several parties of ladies and gentlemen, at the request of the board of managers, visited Thompson's Island. At these visits there have been many persons present, and an examination of the boys in their different studies has been accompanied by some remarks on the objects and prospects of the Institution. Among those who have thus visited the Island, have been many strangers, who have always expressed their interest and pleasure in its objects and condition.

And how should it be otherwise than an object of interest? An Institution designed to rescue the destitute orphan boys of our city from vice and ruin; to withdraw them from scenes and associates, whose contaminating influence would quickly destroy the perceptions of conscience, and leave them, deprived of that monitor, to pursue the impulses of passions which inevitably destroy their victims. Many are the worthy objects of the charitable institutions among us: our Hospitals relieve the sufferings of the sick, and restore them to health and usefulness; they are a blessing which may be required

by all of us, and we would not detract from their deserts. But we conceive that an institution which is to rescue immortal beings from the stain of sin, which could hardly otherwise be avoided, which is intended to have an influence on the youthful mind, and lead it to an understanding of its own capacities, responsibilities and hopes, deserves the fostering care of an enlightened, benevolent community, as much as those associations whose aim is to cure the diseases of the body, or to restore the wanderings of intellect. Such an institution as the Asylum and Farm School, is in true accordance with the spirit of the Pilgrims; it carries into effect the first objects of their solicitude, the education of the young—of that young whose talents would otherwise be employed to violate the peace and virtue of society.

It will be seen by the report of the Finance Committee, that the expenses of the Institution for the year ending January 1, 1837, have amounted to $6,100, while the receipts for the same time have amounted to $3,500, leaving a deficiency of $2,600. To meet this excess of expenditure over income, and to prevent its recurrence it will be necessary to appeal to the liberality of the public. The board of managers had intended to have made that appeal in the autumn of the past year; but the condition of the financial affairs of this community induced them to defer it. They would recommend the subject to their successors as one requiring their attention when a suitable time shall have arrived for its execution, with the confidence that the appeal will be cheerfully and promptly answered.

For the Managers. WM. GRAY.

[FROM THE FARMERS' REGISTER.]

The Difference of Climate between the Eastern side of the Continent of North America and Europe.

Review. *An Essay on the Climate of the United States:* 8 *vo. pp.* 44, 2*nd ed: Philadelphia*, 1833.

This pamphlet appears to have been originally published in 1809, and re-published in 1833, with the addition of an appendix containing several notes.

This essay is, as the title page informs us, an inquiry into the causes of the differences in climate between the eastern side of the continent of North America and Europe—the appendix being mainly occupied with a new solution of the question, why the temperature of western Europe, is higher than that of the eastern coasts of America in the same latitudes.

The author rejects the common notion that the temperature will be mitigated by clearing and cultivating the surface, and gives an instance; China, an empire so well cultivated, which is yet subject to extreme vicisitudes of heat and cold. He attributes the difference between the climate of the opposite shores of Europe and America, to the prevalence of the westerly winds. These winds, he says, blowing over the American continent, make the winter colder, and the summer warmer, in North America—while blowing over the Atlantic, they make the climate of Europe milder in summer and winter both—the same causes thus producing opposite effects in the two continents.

The writer next investigates the cause of the prevalence of westerly winds, in an argument, elaborate abtruse, and, perhaps, from the nature of the subject, somewhat vague and conjectural. He contends that the trade winds, impeded in their course by the American continent, return by a sort of eddy current in a westerly direction.

It must be confessed, that the nature of the winds is very obscure—"they blow where they list, and no man knoweth whence they come, nor whither they go." There are so many currents, and under-currents, and tides of air—so many changes by rarefaction and condensation—the revolutions of the earth, and of the sun, and the currents of the ocean—that it requires a despotic Æolus to reduce them to order and regulate their fury.

To solve the question of the higher temperature of the European countries of the west, than that of the eastern coasts of North America in the same latitude, the writer argues that the greater body of the northern Atlantic, must be to the south—where, being exposed to the more vertical rays of the sun, the waters become heated—this heat is communicated to the atmosphere, and that the winds blowing from the west over the Atlantic, impart a milder temperature to the western countries of Europe, than is enjoyed on the coasts of North America in the same latitudes—and that the gulf stream tends also to produce the same effect. To these speculations in abstract physical geography, succeed some observations of a more practical bearing. The essay, denies that there have been such vast changes in the climate of European countries, as have been insisted on by some writers, and the author concludes, that where trees and plants incapable of withstanding hard frosts are indigenous, we may infer that the climate is not a severe one.

He thinks that the clearing and cultivation of a country, instead of making the climate milder, may cause greater extremes of heat and cold; and hence, the increased backwardness of spring and lateness of autumn, observable in this country. In answer to the opinion, that clearing forests will cause the surface to become more dry, and consequently warmer—he says, that the air does not become temperate, in proportion, as it becomes dry—because fluids are capable of being heated as well as solids, and the air of Europe is more moist than ours, and yet more mild.

He mentions, that in elevation and figure, the northern parts of Europe, such as the countries on the south border of the Baltic sea, resemble the south-eastern parts of the United States—while the countries to the south of Europe, and along the north border of the Mediterranean sea, resemble rather the mountainous districts of Pennsylvania, Virginia, and the Carolinas.

"Having endeavoured to prove that the severity of our climate, and that of the eastern shores of Asia, is owing to the prevalence of the westerly winds, and that the same cause produces an opposite effect on the western coasts of both continents; and having attempted to account for it by the currents of air which constantly move across the Atlantic and Pacific oceans, from east to west, within the tropics; I should here conclude this essay, were I not desirous that these speculations might be the means of inducing persons of better information and more leisure, to pursue the inquiry, and were I not persuaded, that conclusions might be drawn from these positions which would lead to useful results,

"Whether the physical or intellectual powers of the human race

are affected by climate, has frequently been the subject of discussion among those who have directed their attention to questions of this nature; and whether our climate, being liable to greater extremes of heat and cold than that of Europe, operates favourably or otherwise on our faculties, are questions with which I do not pretend to be conversant, and which to any practical purpose it seems unnecessary to discuss. The United States, lying within the temperate zone, their climate, subject as it is to great variations, must on the whole, be classed among the temperate; and men of great endowments, both mental and corporeal, have been born and reared in countries that are subject to greater cold, and in others where the heat is more intense.

"What effect our climate has on animals, as compared with that of Europe, and how far our modes and arts of life, especially the most generally practised and most important of all arts, that of husbandry, are influenced by climate, how far by habit; which of these, brought by our ancestors from Europe and still followed by their posterity, ought to be abandoned as not suited to the vicissitudes of our seasons; and what benefits would accrue from adopting others at present unknown, or little practised among us; are topics of no little moment, and which hitherto have not been much attended to. Practical men seldom apply their thoughts to such subjects, and more seldom communicate them to the public; and it has happened, rather unfortunately, perhaps, that some eminent European writers, having erroneously taken it for granted, that our climate was not only colder, but more moist than that of Europe, and having drawn conclusions from that supposed fact, unfavourable to this country, some of our most distinguished citizens, eager to detect error, and zealous for the honour of their country, not content with refuting these positions, have gone into the opposite extreme, and have contended that our climate was equally temperate with that of Europe, in the same latitudes; or if not so now, that it would gradually approach the same standard, as our forests should be cleared, and cultivation extended over the face of the country. Had it been admitted that our climate was less temperate, and the difference been traced to a permanent cause, instead of controverting an unquestionable fact, or looking for changes which are never to happen, I cannot but believe that many new improvements would have been struck out, and that various important branches of agriculture would have been established among us, that are at present unknown; of these perhaps, the most important, is the culture of the vine. Could we substitute for our beverage the pure and wholesome juice of the grape, instead of the liquid poisons obtained by distillation, so fatal to the health and morals of the laborious part of the community, what a change would be effected in the face of our country? How many industrious families would be saved from ruin! The habit of drinking fermented liquors has prevailed from the earliest ages among the race of men from which we are descended; and though the abuse of them, like that of every other good, no doubt has been productive of evil, it can hardly be questioned that they have added more to the stock of human enjoyment, than they have taken from it. The use of ardent spirits, which was unknown among the ancients, has produced fewer benefits, and incalculably greater mischiefs. Drunkenness is a much more prevalent vice, and is much more fatal among those who are addicted

to the use of distilled liquors, than those accustomed to the use of wine or beer.

"No one, at all acquainted with human nature, will ever expect that the people of this country, any more than the present inhabitants of Europe, will ever abandon the use of intoxicating drinks; and ardent spirits will be in general use among the mass of the community, until a substitute is found. That wine would in a great measure supplant them, need not be doubted, if it could be produced in our country (for it is idle to expect it from abroad) in sufficient plenty for general use."—pp. 26—29.

That "drunkenness is a much more prevalent vice, and is much more fatal among those who are addicted to the use of distilled liquors, than those accustomed to the use of wine or beer," is not a singular opinion, and to a certain degree, is no doubt well-founded; but that it must be taken with some restriction, will appear from the following quotations.

"On my return to Oran, the same day I was struck, though not for the first time, with proofs of the excessive inebriety of the French common soldiers."—*Campbell's letters from Algiers*, page 283.

"By all I can learn, there never was a time when drunkards did not abound in France. I do assure you, that in the course of passing between Paris and London, I have been more struck with drunkenness in the streets of the former, than of the latter."

"Now I take it, that this word *grise*, contains the essence of the superiority of of wine over whiskey. It means *fuddled*—a condition from which one recovers more readily, than from downright drunkenness and of which the physical effects are not so injurious.

"I believe the consequences of even total inebriety from wine, are not as bad as those which follow inebriety from whiskey and rum. But your real *amateur* here, is no more content with wine, than he is with us; he drinks a white brandy, that is pretty near the pure alcohol."

"The official reports, show ten thousand cases of families arrested for drunkenness in Paris, during the past year."—*Cooper's Switzerland.*

The essay proceeds to consider the culture of the vine—and the opinions expressed, though not such as we can entirely concur in, yet on this, as on all other points, well deserves the reader's attention. The main object of preparing these observations, was to present the passages of our author in which agricultural matters are introduced.

"It is much to be regretted, that the efforts made at different periods, and in various parts of the country, to attain this object, have hitherto been so unsuccessful as to induce a very general belief that there is something in our soil or climate so unfriendly to the vine, that it can never be cultivated here with success. As to the former, we know that the first wines of Europe are the produce of soils of various descriptions, extremely different from each other, and it cannot be doubted that we have the same varieties here. The difficulty, if there be one, independent of our want of experience, must, I think, be referred to climate. Possibly it is insurmountable in some parts of the country; but I am persuaded that there are large districts within the United States, in which the grape would find as genial a climate as in Europe. The want of success that has hitherto been experienced, I think may have happened by the selection of kinds not

suited to our climate. The vine as well as other fruits which have been long cultivated, runs into innumerable varieties; and every wine country in Europe has those which have been found suited to its climate, or in a succession of ages have become accommodated to it. In selecting varieties, two leading circumstances would seem to require attention; the first, that they should be able to stand the severity of our winter; and the second, that the grape should ripen at that season of the year best suited to the making of wine. If the vintage take place during the summer-heats, the wines become acid by excessive fermentation; and on the other hand, a grape that does not attain its maturity some time before the usual period of the setting in of the frost, might often be overtaken by the winter, and a year's labour lost. Indeed, if in a climate more temperate than our own, we should find a grape that united these two requisites, it might still fail, when removed to a climate different in other respects from its own. Various kinds of wheat from the Mediterranean have been occasionally sown in this country, and though they resist the cold of our winter, and ripen at the same time with the ordinary kinds, they have generally yielded an imperfect grain. We ought, therefore, in choosing varieties of grapes, to look for them in those countries whose climate most nearly approaches that of the district where the experiment is intended to be made. In Italy, Spain, and Portugal, and perhaps in the south of France, we should doubtless find grapes of different kinds that would not ripen too early in the season; but being none of them accustomed to the severity of a winter like ours, it is highly probable that from this cause, most, if not all of them, would fail here. The vines of Burgundy and Champagne cannot be expected to succeed, both on account of the severity of our winters, and because the grapes would ripen too early in the autumn;* and yet, perhaps, all the varieties of grapes on which experiments have been made, have come from these countries. If we ever succeed, I think it must be by bringing our vines from the interior of Germany, from Hungary, or perhaps from Switzerland, countries remote from the sea, and whose climate is not much unlike that of many parts of our own.

"It is a known fact, that as we advance from the sea-coast into the interior of the continent of Europe, from west to east, the winters grow colder and the summers warmer; and in consequence of this difference of climate, the vine is found to succeed in the more eastern and less temperate regions, much further to the north than on the sea-coast. The neighborhood of *Nantz*, for instance, a little to the north of latitude 47°, is the northern limit of the wine district of France, on the western coast; but as we go to the eastward, the cultivation of the vine extends further and further to the north, and on the banks of the Rhine, excellent wines are produced, at least three degrees further north, and where the severity of the winter is much greater.†

"In Germany, the line extends still further north, into Saxony; and in Hungary the vintage of Tokay, the richest perhaps in the world, is gathered considerably to the north of latitude 48°. Were

*See Legaux's Table of Vegetation in Pennsylvania, compared with that of some of the most famous wine countries in Europe, M'Mahon's Gardner's Calendar, p. 480, extracted, I believe, from some periodical work.

†See Young's Travels in France, and his map of the climate of France, annexed to that work.

our vines brought from these countries, to those parts of the United States most like them in climate, it seems highly probable that many of them would succeed.*

"With regard to the degrees of heat, a pretty accurate judgment might be formed by a comparison of thermometrical observations that have been made in both countries; and the period when the grapes would attain maturity here, might be calculated from the periods of harvest, and the fall of the leaf from deciduous trees that are common to both countries. If in any two districts, the one in Europe, and the other in America, the wheat harvest is at the same season of the year, the fall of the leaf at the same period, and the extremes of cold and heat are nearly alike, it can be hardly doubted, that if wine is made in one of those countries, it might be produced from the same grape in the other.

"These rules are capable of very extensive application; and if they are correct, we might, without wasting years in uncertain experiments, calculate in the first instance, with a great degree of accuracy, whether any particular grape would be suited to our climate or not. Perhaps in the more southern parts of the United States it would be difficult to apply them, as it may happen that in all the wine countries of Europe, whose winters are equally severe, the harvest is gathered at a later period, and the autumn comes on sooner. Such, I am inclined to believe, is the case; indeed, I am persuaded that the great warmth of our summers is much more unfavorable to the cultivation of the vine, than the winter's cold; and, of course, that some of the more northerly districts are much more suited to it, than those furthest south. Wine, I believe, is never made within the tropics. In Europe, Indian corn is found to require a warmer climate than the vine,† and there are few, if any districts in this country, where some of the varieties of that grain will not come to perfection. Most probably the winter of a large portion of the eastern states would be found too severe for most kinds of the vine. Were I, upon conjecture, to fix upon a spot for an experiment, I should look for it in those parts of the United States least subject to the extremes of heat as well as cold. The country south of the lakes Erie and Ontario, and the mountainous districts that separate the eastern waters from those that fall into the Mississippi, in Pennsylvania, Maryland, Virginia, and perhaps the Carolinas, probably would be found to offer the most favorable situations for this purpose; but this can be determined by experience alone. Perhaps the experiment has already been made, under the circumstances I have ventured to recommend, and without success; but I cannot learn that it has ever been done; and if, in the first instance, it should fail, it ought not to be given up as hopeless, until a great number of trials are made with different kinds of vines, such as are most esteemed in the countries from which they are brought, and are most likely to suit our climate.‡

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*Since the above was prepared for the press, I have seen in the National Intelligencer, an account of some attempts to cultivate Hungarian vines in Maryland, near Hagerstown, which are said to have succeeded.

†Young's map of the climate of France, in which the northern limit of the climate fit for the cultivation of maize is placed about two degrees further south, than that of vines; both of them extending from the coast to the interior, in a north-easterly direction.

‡Nullum genus vitium conservendum est nisi fumanullum diutius conservandum nisi experimento probatum. Columella, i, xvi. iii. Sec. 2.

"It may be supposed that the improvement of our native grape would be a shorter and more certain process; but all the kinds I have met with, have such harsh and crude juices, that I apprehend they cannot be improved, so as to become equal to the cultivated grape, for ages. The wild crab-apple is understood to be the original stock of all the fine varieties of that fruit of which we are now in possession. Cultivation, no doubt, has done much in the course of thousands of years; but most probably the greatest improvement has been effected by repeated selections of the best accidental varieties from seed, until they have been brought to their present improved state. In as long a course of time, possibly sooner, the native grape might be brought to the same state of perfection; but as all our cultivated apples are from European stocks, and no improvement from the native crab has hitherto been effected, it seems reasonable to expect, that if we look for equal success with the vine, we must pursue the same course."—pp. 29—33.

Though twenty-seven years have elapsed since the first publication of the foregoing passage, during which many persons have attempted vine culture and wine making, but little success, in general, has yet been met with, and we are but little better informed as to the causes of failure. While allowing much weight to the opinion of our author, as to the agency of climate in causing these different results in Europe and the United States, we also think there is much more in the differences of soils, than he supposes. It is true that vines are cultivated, and wine made profitably, on soils of various kinds in Europe. But it is believed that the best vineyards of Europe are generally, if not universally, more or less calcareous—while the soils of the eastern slope of the United States, have been recently found to be almost entirely destitute of calcareous earth—and probably, not an acre, or a rood, of vineyard, has been made artificially calcareous.

The cultivation of rice is next remarked upon—a crop which has been since abandoned in Virginia.

"Among other objects of cultivation that might be introduced or extended among us, we may, perhaps, reckon rice. This most valuable grain, which yields a greater supply of food from a given extent of ground than any other, is found, like Indian corn, to require a greater degree and longer duration of heat, than is afforded by the climate of the more northern parts of Europe; and, unlike that plant, it does not run freely into varieties, or readily accommodate itself to short summers. On the sunken grounds of the Chesapeake and its tributary streams, and perhaps the Delaware, are large tracts, that in soil and situation are well fitted to the cultivation of this plant. That the heat of summer is sufficiently great, there can be no question; the only doubt is, whether its duration is long enough. The kind that is cultivated in Carolina, is found not to ripen sufficiently early; it is, however, far from improbable, that in other parts of the globe, varieties of this grain might be found that would attain maturity sooner. Rice is said to be cultivated extensively on the banks of the Po, at no great distance from its source; a climate, the medium temperature of which I should think not materially different from that of our lower country of Virginia and Maryland. It is also said to have been lately introduced into Hungary,* the climate of which, probably approaches still nearer to that of those parts of the United

*Miller's Gardener's Dictionary, Martyn's edit. art. ORYZA.

States. Whether it is cultivated so far to the north in China, I have not learned; if it be, it can hardly be doubted, that it would succeed equally well in the same parallels of latitude in the maritime parts of the United States.

"The similarity of climate between the United States and those parts of China that are in the same latitudes, has long since been remarked; and there is certainly no part of Europe, whose climate so nearly resembles our own. Unfortunately, our intercourse with that country is limited to a single port, and that further south than any part of the United States. If a free communication is ever established between our country and the more northern districts of China, it may probably be the means of introducing among us many plants of great utility, and which, being transplanted from a climate so like our own, would at once become naturalized to it."—pp. 33, 34,

However similar the geographical situation of China to the United States—there is, in respect to the grain spoken of above, a striking difference—for we are informed by Malte-Brun, that rice is the principal object of cultivation in China, except places in the north-west, which are too cold and dry for this crop—which is, therefore, replaced by wheat—(see Malte-Brun's Geography—book 42, page 560, Article, *China*—) whereas, we know that the production of rice in the United States, is confined to very narrow limits, being hardly heard of out of South-Carolina, and there restricted to certain peculiar localities.

Malte-Brun, on the page preceding the one just referred to, says, "the northern and western part of China have a far colder climate than the countries of Europe, which are situated in the same parallel of latitude. The elevation of the land, and the snows with which, for the greater part of the year, the central mountains of Asia are covered, contribute to produce this difference of temperature."

"The extremes of heat and of cold are much greater at Pekin, than at Madrid, though the latitude is much the same; it freezes daily in December, January and February, and very often in March and November—the cold is often followed by excessive heat. At Pekin, there are, properly speaking, only two seasons, winter and summer. Calculating according to the observations of Father Amyot, the mean temperature of the greatest heat, is 121°; that of the greatest cold, 63° below zero; the medium heat of the year, 55°." This authority then, confirms the facts stated by the essayist—but does not attribute this extreme mutability of the climate, to the prevalence of the westerly winds. It is stated by Dr. Drake of Cincinnati, that the mean temperature of Philadelphia, is 53° 20', which corresponds very nearly with that of Pekin. China produces, besides rice, which is the principal food of its vast population, wheat, cotton, sugar, indigo, and tea, which last, however, prospers only between the parallels of 30° and 23°. Silk is also made in China—the silk-worms seeming to be indigenous in that country. China boasts also, the camphor tree—the paper mulberry—the tallow tree—*croton sebiferum*—the aloe, the heart of which sells for its weight in gold—and the useful bamboo—the lemon—three varieties of the orange—one of which, is of the size of a cherry—the Chinese chesnut—the banana—tamarind and guava. The Chinese pay little attention to making wine, though several provinces abound in grapes. Not far from Nankin, grows the red cotton, of which nankeen is made. The fibre is of a delicate pinkish orange, which it preserves, after it is spun and woven.

If the productions of one country, resemble another, we may infer, that they enjoy the same climate—and *vice versa*, if a similarity of climate be established between two countries, we may infer, that the productions of one, may be raised in the other. Latitude is an uncertain criterion, for in South America, the traveller finds summer at the base, and winter on the summit of the Andes.

Can any reader of the Register, refer us to the best maps of climate, charts of vegetable production? And here I will suggest the propriety of establishing a botanical garden in Virginia—an institution worthy of the attention of the state.

After the last quoted passage, the essayest continues:

"On the other hand, a due attention to the effect of our climate on some plants brought from Europe, might, perhaps, induce us to abandon the cultivation of them in the more southern districts of the United States. The common oat is a grain little suited to a warm climate; accordingly it is hardly known as an object of husbandry in the more southern countries of Europe. In America, while the northern states and mountainous districts of the south, yield a grain that well repays the labor of the husbandman, that which is produced in the flat country of the southern states, as has been remarked by an intelligent English traveller,* is so light, that it hardly seems to possess the principle of vegetation; yet still, for the want of a proper substitute, it is cultivated throughout that range of country, whether to advantage or not, is at least doubtful. In a country destitute of meadows, an oat crop may serve as a substitute for hay.

"These instances are put by way of example. An examination of this subject in detail, would be foreign from the object of this inquiry, but I hope these unconnected hints may induce persons of more ability, and better means of information, to go more largely into it.

"Agriculture, like other arts, must depend for its advancement on experiments; but when these experiments are conducted on just principles, and in conformity to a correct theory, the road to improvement may be much shortened, and the labor and expense of attempts that cannot be expected to succeed, will frequently be avoided.

"By a due attention to the rules I have mentioned, and others that will readily occur to a reflecting mind, I am persuaded there is hardly a tree or a plant which belongs to any part of the old continent within the temperate zones, that might not be naturalized in some parts of the United States, and that without the waste of time or labor in a succession of fruitless experiments.

"It may be thought, that as our climate is subject to greater extremes than that of Europe, the country is not capable of producing some plants that flourish there. This, no doubt, is true, as to a large portion of the United States, with respect to some trees and perennial plants; but those vegetables that are useful to man, are, the greater part of them, annual, and, for their production, I am inclined to think our climate has the advantage of the more temperate one of Europe. Indian corn, a grain second in utility only to wheat, if it be second, requires a degree of warmth, that in Europe is only found in the more southern regions. In every part of the United States, from north to south, it is cultivated with success.

"Cotton, a plant of such extensive use, which flourishes to so great

* Mr. Strickland's communication to the Board of Agriculture.

a degree throughout nearly or quite one-half the extent of our country, is only known as an object of cultivation in some small districts in the southern parts of Europe.

"The near resemblance between the climate of United States and China has been already mentioned; perhaps no two countries on the face of the globe are more alike in this respect. That climate certainly cannot be thought a bad one, which of all others has been found most favorable to human life, and the richest in vegetable productions."—pp. 34—36.

The respective advantages of climate of our Atlantic states, and western Europe, are summed up and compared in the following impressive manner:

"Unfavorable comparisons of the climate of the United States with that of the western countries of Europe, in regard to the greater extremes of heat and cold, and more frequent and sudden varieties of weather in the former, are often made by Europeans, and, in some respects, perhaps not wholly without foundation; but I doubt whether the balance of advantages, if it be really in favor of Europe, is so in any very considerable degree. Some countries in Europe itself are much more subject to these extremes than others, and yet the inhabitants of the former are not inferior to those of the latter in health, bodily strength, or longevity. As has been observed in this essay, the thermometer has a much wider range in the eastern parts of France than the western, yet I believe that the native inhabitants of Brittany and Poitou, have never been thought superior in corporeal or mental qualities to those of Burgundy and Champaigne. The winters of the south of Germany, especially the more eastern part, are much more severe, and the heat of summer greater than on the Atlantic coast in the same latitudes, yet the inhabitants of the former are as robust and long-lived as those of other countries in Europe. The changes of temperature to which our climate is subject, are seldom, if ever so sudden, as most persons engaged in active life go through daily, without injury, in winter and summer, in exchanging the temperate warmth of an apartment, for the open air. Our domestic animals average fairly with those of Europe. With respect to vegetable life, it is true, that the greater cold of winter deprives us of various useful trees and perennial plants that flourish in more northern latitudes in Europe: but, on the other hand, the greater heat of summer enables us to cultivate with success many valuable annuals, that cannot be brought to maturity in the north or middle of Europe. The cotton plant and Indian corn, both of inestimable value, are cultivated on a large scale, and are an abundant source of wealth and comfort, the former throughout an extensive region, comprehending the greater part of the southern states, and the latter in the whole extent of our country.

"In one point of comparison, I think our climate has the advantage of that of the more northern and western parts of Europe. The westerly winds, which carry with them the mild temperature of the Atlantic, are loaded with its vapors; and while we enjoy bright skies, and a clear, elastic air, for the greater part of the year, those countries, for much longer and more frequent periods, are enveloped in fogs, or obscured by clouds. This state of weather is not wholly without its advantages, but, on the whole, the balance seems to me, in this respect, in our favor.

"There is, however, one aspect in which the climate of a considerable portion of the territory of the United States may, perhaps, appear less favorable to Europeans, than that of any great extent of country in the more temperate parts of Europe. Flat countries, intersected with stagnant waters, or sluggish streams, in hot or temperate climates, are almost uniformly less healthy than high lands, through which the water-courses pass with great rapidity; and the comparitive unhealthiness goes on increasing, with the distance from the poles. The southern coasts of Europe, from the Pyrenees along the Atlantic shores of Spain and Portugal to Gibraltar, and from Gibraltar, to the Bosphorus, are generally mountainous, while the more northern countries bordering on the German sea, and on the southern shores of the Baltic, from Calais to St. Petersburgh, are uniformly low and level. If in the formation of these regions, the northern had been mountainous, and the southern flat and intersected with sluggish waters, it seems highly probable that the southern would have been comparatively more unhealthy than they now are.

"The sea-coast of the United States is generally hilly, from Maine to New-York. Further south is a belt of level land, narrower at the north, but increasing in breadth towards the south, until it forms a great extent of country, comprehending the whole maritime part of the southern states, from Maryland to the western limits of Louisiana, to which may be added, the southern part of the basin of the Mississippi, and its tributary streams. In this tract of country, as extensive as some of the larger kingdoms of Europe, though there are many districts that are far from being very unhealthy, the climate in general is thought less favorable to the European races of men, than that of the northern states, or the hilly country in the same latitudes, between the Mississippi and the Atlantic. To what cause is it owing, that the soil of this great tract of country is mostly cultivated by slaves, the descendents of those formerly imported from the coast of Guinea? And how does it happen, that their number, in comparison with that of the whites, goes on in an increasing ratio from north to south? Does this proceed from moral or physical causes, or from both combined? That the former have contributed to the introduction of slaves from Africa, into our southern country, seems unquestionable. The products of this region, the tobacco of Maryland, Virginia, and North Carolina, and the rice of South-Carolina and Georgia, meeting a ready market and good prices in Europe, occasioned a great and increasing demand for labor, and in latter times, the successful cultivation of cotton, which has now become by far the most considerable product for exportation in the United States, has added greatly to that demand. Further to the north, the chief products of agriculture being either unsuited to transportation by sea, or like those of Europe, they have been less sought after abroad. It is owing to this diversity, that while African slaves were freely admitted into all the English colonies, very few were received in the northern, while they were readily bought up in all the southern maritime country, where, to this day, almost the whole field labor is performed by their descendants? Or is this diversity owing, in part, to the difference of climate I have referred to?—pp. 42, 44.

How much more dignified and useful, for our distinguished professional men of Virginia, (and the supposed author of this essay is one of the most distinguished,) to occupy their leisure in lucubrations of this kind, than in party squabbles and political wrangling—the petty intrigues of elections, and the scurrilous animosity of newspapers.

Early Silk Manufacture in this Country.

[FROM THE HISTORICAL MAGAZINE.]

The introduction of a new branch of profitable industry into a country, must necessarily attract much public interest, as being immediately connected with the prosperity and happiness of all its inhabitants. Recently, much attention has been awakened, by efforts to promote on an extensive scale, by means of societies and incorporated companies, the culture of the mulberry tree, with an ultimate view to the production of silk, either for exportation in a raw state, or for domestic manufacture. The legislature of several states, have favored these efforts by liberal and valuable charters, and congress has considered the matter of so much importance as to make it, through its committees, (selected with great care,) the subject of minute and expensive investigation. During the progress of legislative action, which has at different times, within a few years past, been had on this subject, various statements have been made, both in memorials of petitioners, and in reports of committees, that are not only deficient in the presentment of many particulars of interest, but exceeding erroneous in those that are given. Our object in alluding to this matter, is not to shed any new light on the processes of producing raw silk, or its manufacture afterwards. We profess no knowledge on the subject derived from practical experience, nor have we any specious or learned theory to present. But our only object at present, is to preserve some facts connected with the early history of the silk culture, which we cannot doubt, from present appearances, is destined to open a wide and profitable field for the exercise of American industry and skill. The subject may be dwelt upon hereafter more elaborately.

In a collection of Essays, published by Jared Elliot, of Killingworth, Connecticut, a gentleman who united in himself the three professions of a divine, a physician, and an agriculturist, we find many interesting particulars in relation to the production of silk. Mr. Elliot was an honorary member of the "Society established in London, for the encouragement of arts, manufactures and commerce," and his zeal for making experiments which might result in benefit to America, was quickened into greater exertion, from his connection with that institution. The society, as appears from a pamphlet published by them in London, in 1761, note the following gentlemen as their American correspondents, who were also to pay premiums in their respective colonies, "for merchantable raw silk, raised and produced therein," viz: Dr. Jared Elliot, the Rev. Mr. Thomas Clap, (President of Yale College,) and Jared Ingersol, Esq. of Connecticut; Benjamin Franklin, L. L. D., and John Hughes, Esq. of Pennsylvania; George Pollock, Cullen Pollock, and John Rutherford, Esqrs., North-Carolina.

The premiums were arranged by the London society, as follows:

"For every pound weight of cocoons produced in the province of Georgia, in the year 1761, of a hard, weighty, and good substance, wherein one worm only has spun, three-pence.

"For every pound weight of cocoons produced in the same year, of a weaker, lighter, spotted or bruised quality, though one worm only has spun in them, two-pence.

"For every pound weight of cocoons produced in the same year, wherein two worms have interwoven themselves, one-penny.

These premiums were, by resolution of the society, to be paid, so far as the province of Georgia was concerned, by Mr. Ottolenghe, superintendent of the silk culture therein, "to every person who would bring his or her balls or cocoons to the public filature at Savannah, according to notice (then) sent to Georgia."

The mode of proof to establish claims to premiums was minutely regulated. The fact to be established, was "that the silk has been actually and *bona fide* reeled from cocoons of the claimant's own raising and produce;" and the sum which should be paid by the society's correspondents, were to be repaid to them or order, severally, by the society, upon receiving accounts of the same, properly attested.

It appears that the first attempt in this country to cultivate the silk business, was made in Georgia. The writer is not informed with regard to the time of its commencement there, but from a note appended to the essay of Doctor Elliot, and which is quoted at length, it certainly appears that the enterprise of Georgia, under the administration of Gov. Oglethorpe, first embarked in the manufacture of the American silk. The note is quoted at length, as it refers to an "account from Georgia," not in the possession of the writer, but which may be yet preserved, and in the possession of others.

"By a late account from Georgia," says Doctor Elliot, "it appears that the silk manufactory is in a flourishing way. In the year 1757, the weight of silk balls received at the filature, was only 1052; last year produced 7040, and this year already, above 10,000; and it is very remarkable, that the raw silk exported from Georgia, sells at London from two to three shillings a pound, more than that from any other part of the world."

At the time when Mr. Elliot's essay was published, Georgia was increasing in the silk business. The writer is unacquainted with the reasons that have since led to its abandonment. Georgia, Pennsylvania and Connecticut, were specially selected as silk districts. The reason of this selection probably, was, that it was deemed important to test the advantages of different climates in raising the mulberry tree and the production of silk. The writer is not informed with regard to the result of experiments, if any were made, in Pennsylvania. The condition on which premiums were to be granted in Connecticut, as connected with the resolutions of the "London Society," was, that a public filature should be established in the colony, under the direction of the correspondents of the society, "to which every person should bring his or her ball or cocoons." A severe loss was sustained by those who were engaged in the silk business in Georgia, in the year 1758, by the filature or store-house taking fire, and being consumed, together with a quantity of raw silk, and *eight thousand weight* of cocoons. The quantity destroyed, enables us to form some judgment with regard to the extent of the silk business at that early day. Doctor Elliot says, that in the year when his essay was written, (1759,) those who had given their attention to the production of silk in Connecticut, informed him that "it was more profitable than any other ordinary business." He gives the two following authorities as confirmatory of his opinion.

He says, "some years past, I asked a man of good faith and credit, who had then made the most silk of any among us, what profit

might be made of it; his reply was, that he could make a yard of silk, as cheap as he could make a yard of linen cloth, of eight run to the pound, &c. A woman of experience in this busines, told me, that in the short time of feeding the worms and winding the silk balls, she could earn enough to hire a good spinner the whole year. I have not (adds the Doctor,) the least scruple of the informers veracity, but how far their capacity might serve for an exact calculation, I know not."

The writer has been unable to ascertain the precise time when the colonists of Connecticut first directed their attention to the production of silk. That it was far anterior to the time specified in the memorial recently presented to the legislature, for the incorporation of a company, (upon which memorial and corresponding report of a committee, a charter has been granted,) is shown conclusively by the following extract from Doctor Elliot's essay.

The Doctor says, "I have been informed that at a place called Falkner's Island, which lyeth opposite to Guildford, there are vast numbers of young shoots (mulberry) which grow with such eagerness and obstinacy, that notwithstanding all endeavors to destroy them, the utmost efforts of the proprietors of the island, both by plough and scythe, has been used successively, *many years* as good hap is, without being able to accomplish it. A number of us here, (Killingworth,) and in the neighboring towns, with the leave of the owners, design to supply ourselves from them the next spring; for I apprehend that this way of transplanting young trees, will be the most expeditious, to get furnished for the silk trade."

As the essay from which the above extract is made, was written about eighty years ago, and the "plough and scythe" had been used for many years anterior to that period, in attempts to extirpate the mulberry, the planting of the trees must have been soon after the settlement of the colony. As we intend to confine this article to the early history of the silk culture in our country, (reserving for a future number, its decline and subsequent advancement;) it may be pardonable in us to pay a tribute of respect to the memory of a gentleman, to whose valuable labors we are chiefly indebted for the facts stated in this number. We cannot do better, than by saying, that in the quietness of his character, in his social enjoyments, in his hours of meditation, and in the innocence as well as usefulness of his labors, he seems to have afforded a practical illustration of the truth of one of his paragraphs on the culture of trees. "Such groves (says he,) are proper places for retirement, study and meditation; this will have weight with those who love contemplation—those who are wise and good; he that is not company for himself, when alone, will be none of the most pleasing and edifying company for others; shallow minds who have no fund for their own entertainment, will afford but poor entertainment for others. The loneliness of a grove, the solemn shade, the soft murmer of the air in the tree-tops, all conspire to soothe our passions, calm the perturbation of the mind, recover our fleeting, wandering thoughts, and fix them on proper objects; here is true pleasure and serenity beyond all that pomp or noise can give: surely it is not without foundation, that in all ages and countries, trees and shady groves have been the favorite subjects of poets, both heathen and divine. It is needless, and it would be endless to recite what has been written on this darling subject; and I cannot forbear turning to one

passage in Isaiah, the beauty of which has not been taken notice of. "The mountains and hills shall break forth before you into singing, and all the trees of the field shall clap their hands." This (says the Doctor,) is eqpressed with a grandeur and dignity, well adapted to the sublime subject, and is truely exalted and poetical.

Cultivation of Sweet Potatoes.

[FROM THE TENNESSEE FARMER.]

In the cultivation of every thing, we should consider of what kind it is, to what climate it belongs, and what kind of soil is best adapted to its production. From a neglect to consider these things, many unsuccessful efforts have been made to raise the sweet potato. The sweet potato is a native of a warm climate, and of a light sandy soil. We should then, as far as possible, endeavor to combine these two things, by a judicious selection of a piece of ground upon which to raise them. I will give you the plan which I have adopted in raising sweet potatoes, which has been very successful. Perhaps some who have heretofore failed, may be enabled to succeed better, by adopting it.

Some time in March, when I think the hard frosts are over, I take my potatoes from the cellar, where they have been kept through the winter. I prepare a bed in my garden, by levelling the surface of the ground: I then spread my potatoes over it, until they are not more than two or three inches thick: I then cover them with the rich surface soil, just so deep as I think necessaay to prevent their being injured by light frosts. In this situation I let them remain until the season for planting.

Early in the spring, I select what I suppose will be a suitable piece of ground. In making this selection, I choose a piece which lies fair to the sun, is tolerably rich, and considerably sandy. I break it up deep, and then let it remain until I wish to plant, which is some time between the middle of May and the first of June. I then plough again, and harrow well, so as to make it as mellow as possible. I then take a one-horse bar-share plough, and ridge up my ground by throwing three furrows together. This done, I cross it with a single furrow at the distance of about three feet. A very slight operation with the hoe afterwards prepares my hills, for I do not want them very large, nor high. I now go to my bed, and find my potatoes are all nicely sprouted, and those nearest the surface are up, and some of them have two and three leaves; but none, or but few, have yet any roots. I carefully remove the earth so as not to break the sprouts from my potaotes—for if they are broken off, they are destroyed. I put two or three potatoes in a hill, according as they are large or small, being careful always to leave the tops of the sprouts out of the ground, or near the surface, as they may be more or less advanced—so that when I am done planting, my potatoes are up, or nearly so.

You are now ready to inquire of me, what I have gained by this process? I answer, several things. First, my hills are now light and mellow and ready to receive and nourish the young roots when they start—not baked, or rendered compact by the heavy spring rains. Secondly, I have completely subdued the grass and weeds, for they

all had started to grow between the time of breaking my ground and the time of making the hills. I have then, avoided all the trouble and labor of scraping down the hills two or three times before the potatoes are up, or while they are so small as not to admit of being hilled with the hoe. Thirdly, the earth and the season have now become warm, and my potatoes grow up rapidly. I work my potatoes in the following way. When the vines have elongated half way down the hills, I pass twice between the hill, each way with a bull-tongue plough; this mellows the ground. I then with a hoe, cover, say one third of the vine, leaving the remainder out, but yet so as not to make the hill very large.—This is all the work they require; for before the grass and weeds have time to start, the vines have so covered the ground as to smother them. Two years ago I did not plant my potatoes until the 7th day of June. The season was unfavorable; yet I made a fine crop, and the largest potatoes of the kind I have ever seen in Tennesse.

A SMALL FARMFR.

Hopewell, Feb. 10, 1836.

On the abuse and proper treatment of Work-Horses.

[FROM THE FARMER'S REGISTER.]

I was much pleased with a communication signed W, from Charlotte, in the February No. of your useful and valuable journal, on the feeding of work-horses. In no other portion of the globe, where that invaluable animal, the horse, is domesticated, is he more esteemed, more lavishly fed, and yet at the same time, more cruelly and shamefully neglected, than in Virginia, east of the Blue Ridge, and I am always pleased to see any effort made to meliorate the condition of this faithful and steadfast friend of man. It has been frequently a matter of astonishment to me, that the Virginians, with their proverbial fondness for the horse, (to say nothing of his acknowledged and indispensable value) should always have been, and continue to be culpably ignorant or negligent in what I will call horse-husbandry. Nine men out of ten pay no kind of regard either to his comfort or his nature. He is treated more as a machine made of wood or iron, than as a living being. In winter he is exposed in wretched hovels to the "peltings of the pitiless storm," and in summer he is imprisoned in the same miserable gaols, to inhale the noxious stench and *malaria* arising from the putrescent excrement and filth of his stall. After a hard day's work, or ride, the unthinking (not to say unfeeling) owner (or brute) alights from the back of this faithful and jaded friend, and instead of going to his stall—in person attending to his food—seeing that it is neither too much nor too little, and of the right sort, and causing his stiffened joints to be rubbed, and the perspiration and dust to be curried from his skin and a soft bed thrown down, upon which the wearied creature may repose and resuscitate himself for the morrow's labor, as common gratitude and *interest* both would suggest, this submissive and uncomplaining servant is coldly consigned over to the tender mercies of the slave; and too frequently, after a day perhaps of unprecedented labor, spends a night of corresponding inquietude and misery. No wonder then,

that we so frequently see such woe-begone and miserable looking jades tottering along in our teams. No wonder that the horse is becoming short-lived, and, as many farmers think unworthy of raising; and no wonder that that long-eared, stubborn, ill contrived wretch, that thrives upon beating, the mule, is so fast succeeding and shoving out this noble animal. Your correspondent has well observed, "that the master's attention is half feed." Yes, sir, in this word *attention* is comprised, the whole wisdom of horse management; and this necessary attention needs no phrenological bump for its developement; neither need a man "like a poet or a painter, be born with it"—for it is so simple that any man, be he white or black, may learn it, or be made to learn it. Were I asked what is the best method for keeping horses in good order? without stopping even to glance at what kind of food they ate, I should promptly answer *attention*. This is the whole and only secret; for whilst some kinds of food are decidedly better and cheaper than others, yet with attention a healthy horse will thrive on *any* food that he will eat. In the first place, attend to your stable—make it a comfortable house—let it keep out the rain and ward off the winter winds. In summer when the weather is fair and hot, when you take out of harness at night, feed your horses in a lot adjoining the stable (leaving the stable door open in case of rain)—for it is too bad after a horse has labored hard all day, to cage him up in a narrow cell all night; turn him into a lot and let him wallow and walk about and enjoy the cool breezes. At least once a week (for the horse is a cleanly animal) clean out your stalls and throw the litter into your farm-pen. You will add greatly to your stock of year's manure. and infinitely to the health and comfort of your horse. As often as you clean out your stalls (or oftener) make your ostler throw an armful of straw or leaves into each. Water regularly. Bleed not unfrequently. As often as you think of it, if it is once a day, throw a small quantity of salt into the trough of each horse; and, finally, curry and rub in the morning, at noon, and at night: and whatever you may feed on, the increased strength and ability of your horse will amply compensate you for all trouble; and if a *blooded* horse, will be worth two of the best mules that ever were captured in Sante Fe. But the trouble (this great enemy to the happines of the horse.) although it seems formidable at a distance, when you approach, it dissipates to nothing. Get into the habit *yourself* of attending to the comfort of your horse, and get your ostler or head ploughman into the habit, and he will soon take all the trouble off of your hands. Let your ostler find out, that you are *determined* to have your horses attended to—that you can, at a glance, tell whether they have been rubbed, curried, &c. &c., as they should have been, and you will have no further trouble than to walk to your stable night and morning and look in. As soon as you *convince* him that this thing *shall* be done, he will do it; for one kind of work is the same thing to a slave as another—and he will do or not do this or any other work *well* as the master permits him.

Of the different kinds of food used for horses, my experience tells me, that what is generally in this section of the country, called "chopping," that is, cut-straw and meal of any kind mixed together is decidedly the cheapest, and best general food. It is far preferable to corn and fodder in the usual way, With the horse, as with all other animals, an occasional change is of great service. Our neighbors over the Blue Ridge, whose horses are always fat, make their

"chopping" of rye-straw and rye-meal; but we, on this side, who adopt this mode of feeding at all, do not much care what kind of straw or meal we use. For the last three months I have been feeding six horses on "ship-stuff" and corn meal, (half and half) and cut *wheat* straw—occasionally alternating with cut *shucks*; and I find it, if not the best, certainly as good, and cheaper than any other diet I have ever used. By this method, when they are not at work (when at work I give them corn and fodder at 12 o'clock,) my horses cost me a bushel of ship-stuff and a bushel of corn-meal per head per month; the straw I count as nothing. My ship-stuff cost me two shillings per bushel. It is frequently bought at 25 cents. I have not used one pound of blade fodder, and calculate by the saving, to sell fodder to twice the amount I paid for the ship-stuff; and my horses are as fat, or fatter than I ever had them in the winter. After clover comes in, I use little or no fodder—but feed on green or half-cured clover, and but little else; for a horse will frequently leave untouched the corn in his trough, if you fill up his rack with enough green clover to keep him going all night. I cut the clover in the morning, and let it partially *wilt* in the field till night, on which I feed at night and the ensuing day. Were it not so amazingly convenient to toss ten ears of corn and a bundle of fodder to a horse, I am sure I should never give a grain of corn in the natural state as long as I live. It is a heating, indifferent food—and convenience and the dread of a *very little* trouble, I am convinced, are the causes which induce the great mass of farmers to persist in it—for whether we consult economy, or the welfare of the horse, we should certainly abandon it. I give my horses a quart of meal and ship-stuff a head, mixed up in half a bushel of cut-straw at a feed, in a square box, made for the purpose, holding fifteen bushels. I mix the corn-meal and ship-stuff together, and at each mixing I crumble up three or four bundles of lug tobacco and mix along with it. This answers two valuable purposes: it neutralizes that predisposition to costiveness, (and consequently colic) common to horses in the winter season, and which prevents "Cuffee" from robbing the troughs, which, whether it be a part and parcel of his very nature, or from a principle of *lex talionis*, (to wrong the master because he considers himself wronged,) he will be sure to do, unless you by some means prevent him, even though you were to give him a bushel of meal and a ham of bacon a day.

The horse is a noble, generous, ill-used animal. He ministers to man's pleasures and wants. In peace or in war, for work or for fun, he is the same docile, subservient, willing obedient friend—and if, Mr. Editor, these hasty lines, and imperfect description of what I have found to be an economical and healthful diet, can be of any service either to the "gallant steed" or to the "galled jade," he is welcome to the half hour I have devoted to it. R. C.

The best method of destroying the Bee-moth, or of preserving its ravages among Bees.

[FROM THE MASSACHUSETTS AGRICULTURAL REPOSITORY AND JOURNAL].

The whole tribe of moths and butterflies propagate their species by eggs, which the females deposite in situations and substances in which the offspring caterpillar may find its appropriate food the moment it

is disclosed. The female moth is endowed by the all-wise Author of its existence, with a most wonderful sagacity and skill, in anticipating the wants of the young grubs, when they escape from the eggs and have no mother to direct or provide for them. The numerous species of moths and butterflies seldom live more than a few days after depositing their eggs for a future progeny. The period at which the eggs are hatched after deposition, depends much on the temperature of the atmosphere; by exposure to the cold of an ice-house in summer, the hatching may be retarded, as it may be hastened by a heated atmosphere in the winter or spring. In general, the eggs of moths remain locked up during winter, in the secure spot which the mother insect had selected, and are hatched into grubs or worms by the genial heat of spring.

The silk worm mother, when unrestrained in its natural habits, deposites its eggs on the leaves of trees and carefully glues them to the leaves, that they may not be shaken off by the wind or washed away by rains; and the larvæ, as soon as disclosed, finds its nutriment in the leaf by which it is sustained. The moth that produces the caterpillar, *(Phalaena neustria,)* and that which produces the canker worm *(Phalaena vernatu peckei,)* attach their eggs to the branches of fruit trees, that the ensuing vernal heat may bring the young brood into existence, where they find their food in the buds and leaves just expanding The moth from which comes the worm called the borer, and the insect from which proceeds the peach tree worm, deposite their eggs on the bark of trees, that the larvæ may penetrate into its substance for support. The mischievous curculio stings the young fruit and deposites its eggs, where the young maggot will find its nourishment and at the same time its vehicle to convey it to the earth for a more permanent residence. The diminutive moth whose progeny preys upon woollen cloth, selects that article as a nitus for her eggs. To those instances numerous others might be added.

The true bee-moth, according to Dr. T. M. Harris, *Phalienu tinae cerenea* Linnæus, is a native of Europe. but he has been introduced and naturalized in our country. This insect makes its appearance in April or May, according to the warmth of the season, and continues its depredations among bees until October. It appears in the form of a small miller or nocturnal butterfly, the same that we see fluttering about our lights in a summer's evening. It is smaller than a bee, of a greyish colour, paler towards the head, glossy brown or purplish near the outer margin of the wings. They have four wings, but seldom soar high in the air; they are frequently seen attached to some substance apparently motionless, but on the approach of danger, they instantly leap off with great rapidity.

These pernicious objects discover a peculiar disposition to molest bees, and propagate their species in bee-hives. They lie concealed in the grass during the day, and effect their mischievous purpose in the night; when, by the aid of a light, they may be seen in great numbers, hovering about the apiary, to which they are allured by the sweet odor from the hives. The female moth makes every effort to deposite her eggs within the hive, but failing to find admittance she lays them about the lower edges and crevices, as near to the entrance as she can; and it sometime happens, probably, that they are carried into the hive by the legs of the bees. The eggs according to the course of nature, hatched into caterpillars or worms, having

sixteen feet and a reddish head. These creatures soon wend their way into the hive; and not unfrequently they have been known, with their strong jaws, to cut a channel of their own size, through the substance of an inch board, to obtain admittance. The worms, when arrived at maturity, construct an oblong oval pod or cocoon, in which they envelope themselves. In this situation they remain to enlarge and extend their covering, leaving an opening for the head; and while in their armour, thus formed, they are perfectly secure from any annoyance of the bees. They feed on the wax and comb, devouring and gnawing down the cells which contain the eggs and the young bees until they are wholly destroyed. At length the caterpillars, are changed into a chrysalis state, their bodies are contracted within their cocoon, they cease to feed, and in due time they are transformed into a winged insect, the true bee-moth. Here the insects continue to increase in number, till the whole order and economy of the domicile is interrupted; and the bees, being overpowered, either die, or in despair quit their hive to the enemy, the first or second year of their attack.

The moths disclosed from the cocoons seek an exit from the hive, when they couple; and the females having deposited their eggs in a suitable nidus, soon perish, leaving to the hive in autumn a numerous progeny to be transformed into their perfect state in the ensuing spring. The moths thus transformed pursue the same train of actions to propagate the species, which had been pursued by the parent insects of the preceding year; and it is not improbable, that two or more generations are reared in succession the same season. These destructive insects are more prevalent in some local situations than in others; in some places the stock of bees is entirely annihilated, and all attempts to cultivate them are abandoned.

The female moth is remarkably fertile, laying 400 or 500 eggs in a season. The precise time when the female deposites her eggs, and the time required for their hatching, has hitherto eluded my research; but I have known moths to appear early in April, and at one time have seen a worm thrust out of a hive by the bees in the month of March. The process, both of hatching and transformation, is promoted by the heat within the hive. There is always in the hive with the moths and grubs a quantity of web, resembling that of the spider, the use of which, as I conceive, is to entangle the eggs to prevent them from being spread abroad and lost and to serve as a sort of cradle for the young grubs. About the middle of May, 1828, I perceived upon the floor-board of a hive, a mass of web, in which were numerous grubs, from the size of a needle's point to that of half an inch in length. When this web is observed in or about a hive, it may be certainly known that the hive is infested with insects. I inclosed a number of full-grown caterpillars in a box for experiment. They immediately spun their cocoon, in which they enveloped themselves, and in this chrysalis state they remained until July and August, when they made an aperture with their head, through which they escaped, and expanding their wings, launched into the air. Thus the disgusting caterpillar, which so lately crept on sixteen feet, now is seen to fly with that gracefulness and ease peculiar to the butterfly, one of the most elegant and active of the winged insects. Here we may recognise the Deity in his wonderful works!

In October, 1830, I took from a bee-hive which I purchased, about twenty cocoons containing chrysalis, put them into a box glazed on one side, and kept them in moderate temperature through the winter. In the month of July and August they were transformed into winged moths; a part of which were double the size of others, probably designative of the different sexes; but I was surprised to observe one among them, a beautiful snow white miller.* I put a quantity of honey comb in the box, with the hope of procuring a nursery, that I might be able to discover their habits and mode of propagation, but they survived but a few days.

Methods by which the Bee-moth may be Destroyed.

The extermination of this destructive species of insects is absolutely impracticable, by any means that art can devise; but their number may be considerably diminished in any local situation, and their ravages among apiaries may be entirely prevented. Bottles with a little honey or syrup at the bottom, placed near the hives, will entrap multitudes. If open shallow vessels, containing a mixture of sweetened water, to a pint of which a gill of vinegar be added, are placed within their range, they will be enticed to sip the liquor by which they will become intoxicated and drowned by hundreds. They should be burnt the next morning, lest by the heat of the sun and air they become re-uscitated. If lights were placed near the hives, a still greater number would be allured to the traps, where they may be destroyed.

When these insects have got possession of a hive, they cannot by any means in our power be expelled: the only remedy consists in the removal of the bees into another hive. It would be preposterous to suppose that any article could be applied to the insect, while in its cocoon in the interior of the hive, that would effect its destruction. Common salt has been recommended, but I have inclosed the worms in a box containing marine salt, and they have covered themselves with their web and remained there six months, when they were transformed into the miller. I have put them into a solution of alkaline salts, and even potash, and they have escaped with impunity.

Knowing, therefore, the inutility of all our means to effect the destruction of the bee-moth, it only remains to describe the most effectual expedient to prevent their ravages among our aviaries.

A proper understanding of the instinctive habits of the female moth for the propagation of her species, will indicate the most successful mode of procedure. It has been already observed, that the female selects an appropriate situation as a nidus for her eggs; she discovers a partiality for the floor of the bee-hive, anticipating the sweets of its contents for her dainty offspring. Secluded from the interior of the hive, she deposites her eggs about its edges, and in crevices as near its entrance as possible, trusting to the instinctive faculty of her progeny to seek their way into the hive. From all my observations, I have not been able to discover that moths enter bee-hives by the common entrance. The bees have constantly stationed at their avenue a powerful and vigilant guard, and on the approach of a moth, a mutual alarm and commotion is observable, and the assailant is soon obliged to retreat. In locations, however, where moths are very numerous, they may, outgeneral their opposers, and obtain an entrance. From the foregoing considerations it must appear obvious, that the only effectual method to secure the hives from the ravages

* Probably another insect of different habits.

of the great enemy to bees, consists in a close house, to seclude them from all access. This unquestionably affords the only defence, and combines all the requisite advantages.

From three year's experience, I can affirm that this plan has answered my full expectation, and I can rely upon it as a perfect security. I have no reason to suppose that my apiary is in the least infested with these insects. The form and dimensions of the house which I have found convenient, is in length proportioned to the number of hives which it is to contain; the width is about eighteen inches, and the height about two and a half feet, for a single tier of hives, with a roof sloping in front. The front part should be entirely closed, having apertures at proper distances to correspond with the mouths of the several hives to be placed within. The outlet from the hive and from the house, should be a little sloping downwards, that the bees may with greater facility remove obnoxious substances, and be better enabled to defend themselves against their enemies. The whole wall on the back part should consist of doors furnished with hinges and fastenings. The house is to be placed on posts about two and a half feet high; set into the ground and secured from being turned over by the wind. The doors may be shut or left open in the day, as circumstances may require, both winter and summer; and if thought necessary, a grating may be placed before the avenue at night. Instead of the house just described, the hives might be placed in an upper apartment in an out-house, and the height from the ground would afford additional security against the moth. As a further precaution, it may be recommended to whitewash the front of the house and the floor-board, which should also be changed frequently.

I subscribe myself the committee's very humble servant.

JAMES THACHER.

Plymouth.

On the Cultivation of Rye.

[FROM THE FARMER'S LIBRARY.]

There is no difference between what is called winter and spring rye. Winter rye, by sowing it later and later each year in the fall, will acquire a habit and quality by which it may at length be sown in the spring, and then it is spring rye; or take spring rye and sow it very late in the fall, and then a little earlier, each succeeding year, and it will become confirmed in the habit of winter rye.

One circumstance favorable to the cultivation of this kind of grain is, that it will grow year after year on the same soil without exhausting it, provided the stubble be constantly ploughed under immediately after taking off the crops. Another circumstance peculiar to this plant is, that it will grow very well, and produce the best grain for bread on a thin gravelly soil, and will flourish well too on the richest.

There is an instance mentioned in the Farmer's Assistant, of a gravelly soil being highly manured and sowed with rye, in which the rye was twice successively eaten off close to the ground by sheep breaking in after it had acquired a height of about nine inches the first time, and six inches the latter. These croppings, however, only

served to make it grow thicker and stronger than before; and when harvested it produced at the rate of one hundred and twenty-eight bushels to the acre. The author of the above account supposed that the crop would have been lost by lodging, had it not been for the two successive croppings of the sheep, and suggests the expediency of trying similar experiments with wheat.

It has been remarked that winter rye may be sowed early in the spring, and used as pasture during the season; and that it may be sown at the usual time, and serve for a sheep pasture, awhile during the next spring without injury to the crop. It may also be mowed for hay two or three times during the summer, when sown in the spring. But in such culture the ground should have much more seed than the usual allowance, which for early sowing in the fall is about a bushel to the acre, or a bushel and a half for later sowing. Spring rye, it is believed, should have this latter allowance, and be sowed as early as the ground can be well prepared.

Rye, that is intended for family use, should, if the weather will admit, be harvested even as early as when the rye is yet in the milk, and left to lie on the ground for some days to dry and harden. By such management the grain will make a much whiter flour, though perhaps not quite as heavy as when it stands till it is fully ripe.

When rye is sown successively on the same soil, the stubble should be ploughed under as soon as the crop is taken off, which helps to improve the ground and serves to destroy the seeds of weeds. It should then lay until about the first of September, then ploughed again, and the next crop harrowed in. Some have supposed that in this way the crops will increase in quantity.

Rye is subject to a distemper, called the spur. The grains which are affected with it, are larger than the rest, mostly crooked, bitter to the taste, projecting beyond their husks, dark coloured, rough, and deeply furrowed from end to end. This kind of diseased grain sometimes proves very destructive to those who eat it. In some parts of France where the disease prevails most, the peasants who eat it are liable to be attacked with a dry gangrene in the extreme parts of the body which causes those parts to fall off, almost without pain. "The Hotel Dieu at Orleans," says Duhamel, "has had many of these miserable objects who had not any thing more remaining than the bare trunk of the body, and yet lived in that condition several days." It is not every year that the spur produces these effects, and it is said that if the grain be kept a certain time before it is eaten, it will not be hurtful. It is thought, however, that no very bad effects have been known in this country from eating this kind of rye.

When we consider that rye flour mixed with corn meal makes a wholesome and valuable bread, and can be raised on light soils, which under some circumstances may be devoted to that crop better than to any other; and when it is considered too, that it is not an exhausting crop, the raising it cannot be considered an unimportant article of domestic economy.

PART III.

MISCELLANEOUS INTELLIGENCE.

Genius vs. Labour.—"Of what use is all your studying and your books?" said an honest farmer to an ingenious artist. "They don't make the corn grow, nor produce vegetables for the market. My Sam does more good with his plough in one month, than you can do with your books and papers in one year."

"What plough does your son use?" said the artist quietly.

"Why he uses———'s plough to be sure. I can do nothing with any other. By using this plough, we save half the labor, and raise three times as much as we did with the old wooden concern."

The artist quietly turned over one of his sheet's and showed the farmer a drawing of the lauded plough, saying, "I am the inventor of your favorite plough, and my name is———."

The astonished farmer shook the artist heartily by the hand, and invited him to call at the farm house and make it his home as he liked.

The best of Women.—She who makes her husband and her children happy; who reclaims the one from vice, and trains up the other to virtue, is a much greater character than ladies described in romances, whose sole occupation is to murder mankind with shafts from the quiver of their eyes.

The ladies ought to send us a few subscribers for this item.

The Farmer's School Book, is the title of a volume in 12 mo. of 240 pages just published by J. Orville Taylor, publisher of the Common School Assistant, and is one of a series of small volumes which he is publishing, designed as reading books in common schools. Price 44 cents. It is a good book, calculated to instruct the boy and to implant in his mind the seeds of knowledge and usefulness. If it is proper for boys to learn "those things which they expect to do when they are men," and of this no one will express a doubt, nothing can be more proper to be put into the hands of those who are soon to become farmers—(if the speculating mania should in time abate) than a book which teaches them the properties and laws of organic and inorganic matter, which not only instructs them in their future *business* of life but tends to qualify them for the higher *duties* of society, which will tend to make them intelligent, and useful and good men. Such is the character of the work of which we are speaking. An effort is now making to "bend the twig" as it *should* grow, by providing for our common schools, and common school libraries, in a cheap form, a selection of books, calculated to make our sons wiser, and we trust better, than their fathers. The effort is a noble one, and those engaged in it deserve the commendation, and the co-operation, of every friend of civil liberty.

Cure for the Quinsy Sore Throat.—Salt, soft soap and scotch snuff, an equal quantity of each thoroughly mixed together, and applied as a plaster to the part affected, is said to be an infallible remedy for quinsy sore throat.

Cure for the Gout.—"Pray, Mr. Abernethy, what is a cure for the gout?" was the question of an indolent luxuriant citizen. Live upon a sixpence a day, and earn it was the reply.

Method of preserving Cheese from Worms and Mites.—Grains of whole pepper, put into a vessel in which cheese is kept, will drive away the above mentioned insects.

Alum in paste will prevent mice from gnawing at the backs of books which have paper titles pasted on them. We wish our binders to think of this, or something better that will answer the same purpose.

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The most beautiful colour.—It is said that the daughter of Aristotle, on being asked "which was the most beautiful colour?" answered. "That of modesty."

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Chickens.—Chickens are hatched by the heat of ovens by the natives of Berme, a village in Egypt, they hire themselves all over Egypt for the purpose and undertake to deliver two-thirds as many chickens as eggs. The ovens contain from forty to eighty thousand eggs, and there are four hundred of them in different parts. Each brood occupies 21 days, and they work their ovens for six months, producing altogether one hundred millions of chickens in six months.

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A remedy for Arsenic.—Tobacco is said to be an infallible prevenive against the fatal effects of arsenic, when taken into the stomach. In several instances, where tobacco was swallowed after taking arsenic, no sickness resulted from the use of the tobacco, and not the least harm from the arsenic. This is an important discovery.—*N. Y. Sun.*

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Ink.—In the last London Literary Gazette, notice is given of a new ink, designed to supersede the Indian ink in architectural and other drawings. It is said to possess decided advantages over its oriental rival: the color is deeper and richer, and it works more freely than the best Indian Ink.

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Mexico.—The Mexican mines, which have yielded for a century or two, on an average $10,000,000 per annum, are at present mostly owned in England. John Bull, therefore, will keep a sharp look out for whatever relates to that country.

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Oil from Vegetables.—A discovery has been made in England, by which oil may be obtained in greater abundance from the seeds of vegetables, by applying to them diluted muriatic acid.

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A fine Ruta Baga Turnip.—Mr. Paul Pratt, of Foxcroft, Penobscot county, raised the present season, a Ruta Baga turnip, measuring thirty-two inches in circumference; its weight is not known, as the steelyards in that neighborhood were not probably big enough. What is the use of growling about cold seasons, and all that sort o'thing, when *such* turnips can be raised?

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To the Ladies.—It is said, if you fill flower pots about half full of quick lime, cover over this a good mould, and the flowers may be thus obtained in a very short time and at all seasons! The earth should be kept slightly moistened and pressed down whenever it rises by the swelling of the lime.

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Progress of Education.—Out of a population of thirty thousand persons in the Scotch Isles, there is but 107 above six years of age who cannot read.

What an example for the free, the wealthy, the republican State of South Carolina.—*Ed.*

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Beautiful Varieties of Pinks.—Very many beautiful varieties of the pink may be obtained by the following process: Just before sun rise, carefully open the flower to be operated upon, and extract the anthers with small pincers. About 9 o'clock, place the ripe pollen upon the stigma of the flower, and repeat this two or three times in the course of the day. If the act of impregnation has taken place, the flower will fade in 24 or 36 hours, but if not, it will remain in bloom and beauty, in which case the attempt must be repeated. This should be done in fine weather, and the flower should be defended from rain or mist. Plants raised from the seeds which have been crossed, bear the form of the mother, but take the color of the male parent. These are less visited by bees than others. These are curious facts.

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Progress of Improvement.—The silk handkerchiefs manufactured at the Atlantic Silk Establishment, Island of Nantucket [!] are of great beauty, resembling the pongee. They are elegantly printed in fast colors, by James Halladay, of Lynn, and cheaper and better than the foreign articles. Scarfs, aprons, with printed borders, &c of peculiar fineness, finish and elegance, are also manufactured at the same establishment. The ingenious Mr. Gay, whose machinery is well known, has also supplied a desideratum for *finishing* the silks, which it was

thought, would be a serious objection to the introduction of this manufacture into our country. He gives an exquisite satin lustre to the goods and it is unimpaired by washing. So says the Boston Mercantile.

Recipe.---When a horse has bots, it may often be known by his biting his sides; when he has many, they often throw him in great pain, and he lays down, rolls, and if not cured soon, dies. When it is believed that a horse has the bots, by the above symptoms, give a pint of sweetened milk; which the bots are fond of, and they will let go their hold on the horse, and feast on the milk. Immediately give the horse a small quantity of oats or other provender, in which put two-thirds of a common fig of tobacco pulverised. If he refuses the provender thus mixed, steep the same quantity of tobacco in a pint of boiling or warm water, until the strength is out, as we say, then put in enough cold water so that the whole will fill a common junk bottle, and turn it into the horse. When it reaches the bots it kills them, as all will believe, who have ever spit tobacco juice on a worm or similar insect. The horse in less than twenty hours will void all his bots; there is no mistake in this, though no patent has been obtained.

The writer would not have it tried on an old poor horse in the fall or first of winter, for he would certainly recover, to the damage of his owner.

If one worth curing is affected with bots, and the symptoms are severe, never stop for the milk, but in with the tobacco,---this is the *kill all.*---*Maine Farmer.*

Care of Poultry---The celebrated agriculturist, Arthur Young, says, "the poultry house should contain an apartment for the general stock to roost in, another for setting, a third for fattening, and a fourth for food. If the scale is larger, there should be a fifth for plucking and keeping feathers. If a woman is kept purposely to attend them, she should have her cottage contiguous, that the smoke of her chimney may play upon the roosting and setting rooms; poultry never thriving so well as in warmth and smoke; an observation as old as Columella, and strongly confirmed by the quantity bred in the smoky cabins of Ireland."

A Contrast.-- If the beauties of the earth are so fading and its bounties so soon perish---if the loveliest scenes of nature lose their charms, and a few revolving years break the spell that binds us to those whom we love best---if the figure of earth is changed by its own convulsions---if the form of human government and the monuments of human power and skill cannot endure---if even systems of philosophy that predominated in one age are exploded in another---if nothing on the earth beneath or the water under the earth, preserves its form unchanged, what is there that remains forever the same?---what is there over which autumnal winds and wintry frosts have no power? what does not pass away while we are struggling with calamity? what is that proof against the fluctuations of human opinion and the might of the ocean's waves and the convulsions by which mountains are heaved up from their deep foundations?

It is the God, by whom these mighty works are done, by whose hands this great globe was first moulded, and has ever since been fashioned according to his will. Hast thou not heard that the everlasting God, Jehovah, the creator of the ends of the earth fainteth not, neither is he weary?

Cause of Ignorance, &c.---The reason why many people *know* comparatively nothing, is because they never can bear to be *told* any thing.

Every body knows *something* which *nobody else* knows. The *wisest* man, therefore, may learn something from the most *ignorant.*

Many people are so absurdly afraid of *exposing* their ignorance, that they keep it as long as they live, and engrave it on their foreheads to be read by all men.

The most ignorant ought not to be ashamed of seeking for more knowledge, though the most learned might well be ashamed of remaining willingly ignorant, when there is an opportunity to learn.

There are learned men without wisdom, and wise men without learning. Yet learning is a means of wisdom, and a wise man will seek to increase his learning.

The learned man who despises the wisdom of the unlettered wise man, is brother to the unlearned and foolish man who unwisely despises learning.

The wisdom of a wise man will be seen in his seeking *most* to know the things most important to be known.

Experiments.---There is no way of making improvements in farming, but by experiments. If the farmer is informed of, or has conceived a different and better

method of culture, or management in any branch of his farming, he is to test the goodness of that method by experiments; and, if these prove successful, he may congratulate himself, on having performed an act which is serviceable to his country, and honorable to himself.---*Farmer's Assis.*

Rat Stopper.---A friend at our elbow wishes us to mention a method of stopping out rats from cellars. The varmints dug down on the outside and came in under the cellar wall. In order to put a stop to this business of theirs, he carefully dug down and deposited a goodly lot of blacksmith's cinders, in such a manner that their ratships would have to dig or gnaw through it in order to get in.

They have since disappeared, probably giving up the scratch as hardly worth the wear and tear of teeth and toe nails.---*Me. Far.*

Anecdote.---I went into a school of little children in B——. While talking to the school, a wicked little boy six years old, doubled up his fist and struck his little sister, sitting by him, four years old, on her head. She, in the true spirit of war, doubled up her fist to strike back. Just as she was about to give the blow, the teacher caught her eye---"Mary dear, you had better kiss him."

In a moment, the little girl's feelings all changed. She threw her little arms around her brother's neck, and began to kiss him. He began to cry, and the tears rolled down his cheeks. The little sister wiped them off, and tried to comfort him, and the more she kissed him, wiped his tears and tried to comfort him, the harder he cried. A kiss for a blow! This is overcoming evil with good. That little boy was cautious how he struck his sister again.---*Luff. Spectator.*

To parents, this little anecdote should be highly treasured and always practised. It is worth thousands.---*Ed.*

Hymenial Riddle.—A marriage took place at Bridgewater, Vt. last week, at which were counted 3 fathers, 3 grandfathers, 3 mothers, 2 grandmothers, 4 children, 2 grandchildren, 3 husbands, 1 daughter, 3 wives, 2 uncles, 2 brothers in manhood, 2 aunts, 2 brothers in childhood, 2 sisters, 2 nephews and 2 wives —in all 37, and yet only 8 persons were present. The bridegroom wedded his brother's wife's mother—the bride being in her 67th, and the bridegroom in his 42d year.—*Claremont Eagle.*

AMERICAN LYCEUMS.

A Request to Editors.---All editors of newspapers and other public Journals, throughout the United States, are requested to mention "that the Pennsylvania Lyceum is prepared to deliver *gratuitously* an elementary set of specimens in Geology and Minerology, to any and every county Lyceum, which is or may be formed in the Union.

If any such Lyceum or a few individuals, with a view of forming one in any one of the eleven hundred counties in the United States, will request some merchant or other person who may visit Philadelphia the present season, to call upon John Simmons, corresponding Secretary of the Pennsylvania Lyceum, or upon Dillwyn Parish, corner of Arch and Eighth streets, they can procure a set of specimens, representing the elements of rocks and mountains, the different strata or kinds of rocks, the ores of the most useful metals and a few other minerals, a few specimens of improvements in schools and Lyceums, such as geometrical, and perhaps architectural and other perspective drawings, foliums, impressions of leaves, and possibly a few specimens of needle work.

Editors of this and other countries are also requested to mention in their columns, that the next national Convention of American Lyceums, will be held in Philadelphia, commencing on the first Tuesday of May next, and that any person or persons from either continent, who may bring or send to that meeting specimens of plants, minerals, shells, insects, or other productions of nature or art, may exchange them for others, deposite them for the use of the National Cabinet, or appropriate them in some way for the diffusion of knowledge and for instituting a scientific. and, it is hoped. a Christian intercourse among the nations of the earth.

It is expected that the delegates from State and County Lyceums in America, and from similar societies in other countries will be provided with accommodations by the hospitality of citizens.---*Gen. Far.*